The Longitude Found:

OR, A

TREATISE

SHEWING

An Easie and Speedy way, as well by Night as by Day, to find the *Longitude*, having but the *Latitude* of the Place, and the *Inclination* of the *Magnetical Inclinatorie Needle*.


By HENRY BOND Senior , *Teacher of* Navigation, *and other Parts of the* Mathematicks, *in* Store-house Yard *in* Ratcliff.

Printed by the Kings Majesties special Com~~mand~~

LONDON,

Printed by *W. Godbid*, and are to be sold by the Author *HENRY BOND*, at his House aforesaid ; *Robert Greene*, at the *Rose* and *Crown* in *Budge-Row*; *Godfrey Richards*, at the *Golden-Ball* in *Cornhill*, over against the *Royal Exchange* *John Thornton*, at the *Dial* in the Great *Minories*.
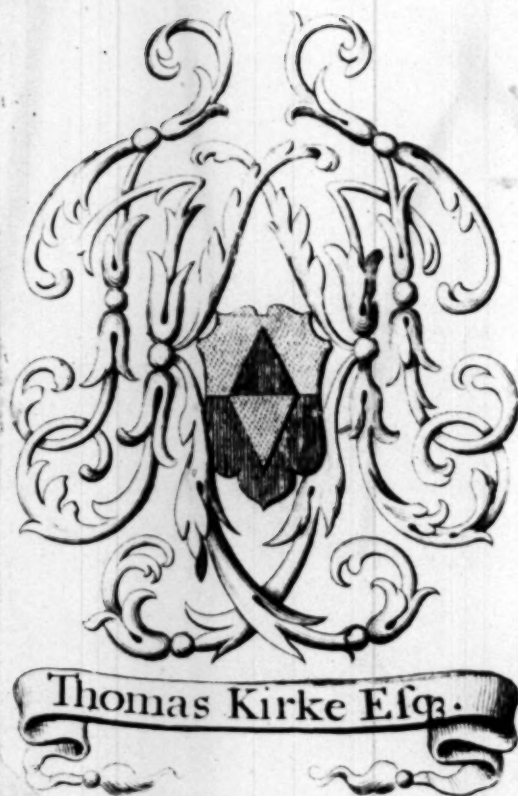
TO HIS

Moſt Excellent MAJESTY

Charles II.

King of England, Scotland, France, *and* Ireland, *Defender of the Faith,* &c.

Dread Soveraign,

I Humbly beſeech Your Gracious Majeſty, that you would be pleaſed to pardon my boldneſs in preſuming to preſent any thing to Your Majeſty: But underſtanding that Your Clemency is very great; and beſides, knowing that the thing

A 2 that

that I here humbly prefent unto You is that which hath not been known to former Ages, here in our Nation, nor to Foreign Nations is not yet known to this day : That hath Imboldened me to prefume humbly to prefent it to Your Majefty.

And that as Almighty God was pleafed that the beginning of it fhould be in this Kingdom, fo now he is pleafed that the Conclufion and chiefeft ufe of it (which is to find the *Longitude*) is made known in the time of Your Reign, for the Honour of Your Majefty and Your Kingdoms : And You have given Command for the Publifhing of it, that it may be, not only for the benefit of Your own Subjects, but alfo for the benefit of all the *Chriftian* Nations in the World; for which Your

Your Majesty will be acknowledged by the present Generation, and recorded to after Generations, to be the Rectifier and Setler of the *Geography*, and *Hydrography* of the whole World. The Lord God Almighty bless and prosper Your Majesty with a long and prosperous Reign here, and an everlasting Reign in Glory hereafter. So prays

Your Majesties most Humble

and Loyal Subject

Henry Bond, Sen.

HENRY BOND
TO THE
COURTEOUS READER.

Courteous Reader,

HEre is presented unto thee a Mysterie of a Motion, that out of all Question hath been ever since the Creation of the World, which Almighty God hath been pleased to conceal until this time: And now he is pleased that it shall be made known for his own Glory and the benefit of men in the World; and hath been pleased to make me an Instrument in his hand to declare it to the World: And Our Gracious Kings Most Excel-

lent

lent *Majesty*, *hath commanded the Publishing of it*, *that it may be*, not only for the benefit of *his own Subjects*, but for an *Universal benefit to all t*ʰᵉ *Christian Nations in the World*. I *shall not enlarge my self in many words to commend its rare and excellent Use for the easie and speedy finding of the Longitude*, as well by night as by day, *having the Latitude of the place*, which *is sufficiently manifested and demonstrated in the Treatise it self*. By which means the Geography and Hydrography of the whole World will be rectified and setled; for which they are all beholding to *Our Gracious King's Majesty*. So *Courteous Reader farewell*.

Charles

THere are several malitious, unworthy Ignorant persons, to the number of Fourteen; who scandalize the Almighty *Jehovah*, and give him the lie to his face, and do much dishonour our Gracious Kings Most Excellent MAJESTY, their Ignorance so much superseding their understanding as to speak against the truth of this Treatise, thereby bringing a disrepute upon our *English* Nation, and unworthily abusing those Six Honourable and Learned Men who were appointed by the Kings MAJESTY to Examin the truth of the same; some of whom gave the Report thereof to His MAJESTY a year and a quarter e're this Treatise was made publick.

ERRATA.

PAg 28, last line save one, 67. deg. 30 min. r. 8 deg. 30 min. p. 59. *Cape Blanco*, r. Lat. 51. 32. p. 60. *Bermudas*, r. Lat, 32. 25. Longit. 60. co. p. 57. *Trinity Bay*, r. Lat, 48. 55.

THis Treatise (Entituled , *The Longitude Found*) hath been Examined by Six Commissioners , appointed by Order of the Kings Most Excellent MAJESTY, and by some of them Reported to His MAJESTY. The Commissioners were , *viz.* The Right Honourable the Lord Viscount *Brouncker* , Chancellor to the Queens Most Excellent MAJESTY, President of the *Royal Society* , and one of His MAJESTIES Commissioners for the *Navy, &c.* The Right Reverend and Learned Father in God , *Seth* Lord Bishop of *Sarum* ; the Right Worshipful and Learned Sir *Samuel Morland* ; the Honourable and Learned Collonel *Titus* , one of His MAJESTIES Bed-Chamber ; the Worshipful and Learned Doctor *Pell* , one of His MAJESTIES Chaplains ; and the Learned Mr. *Hook*, Professor of *Geometry*, at *Gresham-College* in LONDON : And hath been further Confirmed to the Kings MAJESTY, by Captain *John Wood*'s Observation , in the Streights of *Magellan.* see *Philos: Transact n. 130. pag 774.*

Charles R.

CHARLES the Second, by the Grace of God, King of England, Scotland, France, and Ireland, Defender of the Faith, &c. To all Our loving Subjects, of what Degree, Condition, and Quality soever within Our Kingdoms and Dominions, Greeting. Whereas we have been given to understand, That Our Trusty and Well-beloved Subject Henry Bond,

hath

hath for several years past, *applyed himself to the finding out the* Longitude of any *place*, *by the use of the* Magnetick Inclinatory Needle, *and hath at his great Charge and Expence of time Composed a Book*, *Entituled*, A Treatise, *wherein is shewed and* Demonstrated *an easie and speedy way*, *as well by* Night *as by* Day, *to find the Longitude* (*having the Latitude of the place*) *by the use of the Magnetick Inclinatory Needle*; *whose pains therein*, *as it is greatly to Our Satisfaction*, *so can we no less for his past Industry and future Encouragement*, *in his further Progress of these Studies*, *but express Our good liking and Approbation thereof.* Know ye therefore, *That it is Our Royal Pleasure*, *and We do by these presents*, *upon the humble Request of the said* Henry Bond, *not only give him full leave*, *License*, *and Authority to Print the said Book*, *but strictly charge*, *prohibit*, *and forbid all Our Subjects*, *to Reprint within any Our Kingdoms the said Book*, *in any Volume or any part thereof*, *or to import*, *buy*, *vend*, *utter*, *or distribute any Copies or Exemplaries of the same*, *Reprinted beyond the Seas*, *within the term of fifteen years*, *next ensuing the Publishing thereof*, *without the consent and Approbation of the said* Henry
Bond,

Bond, *his Heirs, Executors, or Assigns, as they and every of them so offending, will answer the contrary, not only by the forfeiture of the said Books, Copies, or Exemplaries, but at their utmost peril:* Whereof as well the Wardens and Company of Stationers of Our City of LONDON, *as all and singular Our Officers of the Customs in this Port of* LONDON, *or any other place within Our Dominions, and all other Our Officers and Ministers whom it may concern, are to take particular notice,* That due obedience be given to this Our Royal Command. *Given under Our Signet and Sign Manual, at Our Court at* White-hall, *the Twenty Eighth day of* June, *in the Eight and Twentieth year of Our Reign,* 1676.

By His MAJESTIES Command.

[*Vera Copia.*]

Joseph Williamson.

The LONGITUDE Found.

Hereas of late dayes there hath been pretending for *Longitude*, I shall not trouble my self with contradicting any of their wayes, but shew a way which Almighty God hath made known to me, and hath been proved by Observation in remote parts of the World.

There hath been some in former dayes, that have thought they could find the Latitude of any place by the *Inclination* of the *Inclinatory Magnetical Needle* under the Horizon; wherein they were much deceived, because the *Magnetical Needle* respects its own Poles (I mean, the *Inclinatory Needle*) and not the Poles of the World, except it be in one Meridian in two opposite points.

B   Yet

Yet I honour their Names and Memories, *viz.* Dr. *Gilbert*, Physician in ordinary to Queen *Elizabeth*, and Mr. *Barlow* of *Winchester*, because they made known to the World their Opinions of that which they knew in their time.

And although the *Inclinatory Needle* cannot shew the Latitude (because there is one and the same *Inclination* in a hundred several Latitudes) yet it shews something else, which is a means to find the *Longitude*, which I shall shew and prove in my further Discourse.

In the mean time, I am sorry that any one should be so impudent in our dayes, to put it out in Print, the Latitude may be found by the *Inclination* of the *Inclinatory Needle*; and Mr. *Edward Wright's* Table of *Inclinations*, in his Book of *the Correction of Errors in Navigation*, if that had been for that use, it had been made use of many years before he was born that hath put it out in Print.

Mr. *Edward Wright*, in the latter end of his Book of *the Correction of Errors in Navigation*, sets down several Reasons, as he thought, against *Magnetical Poles*; but I shall make it manifest from Eighty five years Observations,

ons, that there are two *Magnetical Poles*; the one North, and the other South.

I wrote in the *Sea-mans Kalendar*, above Thirty years since, that there were; and that I knew their Latitude, their Longitude, and their Annual Motion, which Motion of theirs is the cause of the *Variating* of the *Variation* of the *Magnetical Needle* or *Compaſs*, and the cause of the *Alteration* of the *Inclinatory Needle*. I did in that *Kalendar* foretel Twenty Years before it came to paſs, that in the Year 1657, there would be no variation at all at *London*; which was found to be ſo; and ſince it hath been Weſterly, and will be Three hundred Years after 1657.

Mr. *William Burrowes*, in his Tract of *the Variation of the Compaſs*, had ſome thoughts of Magnetical Poles, and hath ſome Calculations to find their Diſtance from the Poles of the World; but his mind was, that they were, or rather the North Magnetick Pole was farther from the *Zenith* of *London*, than the Pole of the World, and makes the North Magnetick Pole to be 25 *d.* 44 *m.* from the Pole of the World.

     Beſides,

Befides, he had fome thoughts of a Point refpective in the Bowels of the Earth.

But when I had read him, and confidered of it, I thought the Magnetick Pole might be nearer to the *Zenith* of *London*, than the Pole of the World; and that by the Latitudes of *London* and *Vaygats*, and their Difference of *Longitude* 58 *d.* 00 *m.* and the Variation at *London* 11 *d.* 15 *m.* Eaft, and the Variation at *Vaygats* 7 *d.* 00 *m.* Weft, I might find out the Magnetical Pole at M, as in the following Scheme.

But here we muft take notice that Mr. *Burrowes* Obfervations of the Variation at *Vaygats*, was not the fame year that he obferved at *Lymehoufe* in *October* 1580. but four years before, as it plainly appears to me by the motion of the Magnetical Poles; for he was one that Sailed much into thofe Northern Parts.

His Obfervation of the Variation at *Vaygats*, was in the year 1576, and then the Variation at *London* was 11 *d.* 34 *m.* but in the year 1580, when it was 11 *d.* 15 *m.* at *London*, it was 8 *d.* 38 *m.* at *Vaygats*; as it appears in the following Scheme: For finding the

the Latitude of the Poles, we have in the Triangle L P V , the co-latitude of *London* L P 38 *d.* 28 *m.* and P V, the co-latitude of *Vaygats*, 20 *d.* 00 *m.* and the Angle L P V, *ferè* 58 *d.* 00 *m.* the Difference of Longitude between *London* and *Vaygats.* To find the Side L V, the Diſtance between *London* and *Vaygats*, and the Angles P L V, and P V L, from P L V Subſtract 11 *d.* 15 *m.* and there remains the Angle V L M. And ſubſtract 8 *d.* 38 *m.* from P V L, and there will remain the Angle L V M. Then in the Triangle L M V, we have the Side L V, and the Angles L M V, and M V L, to find the Sides L M and V M, the Diſtances of the Magnetical Pole from the Zenith of *London*, and the Zenith of *Vaygats*: And laſtly, we have in two Triangles, *viz.* PLM and P V M, two Sides and one Angle included, to find P M, the Diſtance of the Magnetical Pole from the Pole of the Earth, 8 *d.* 30 *m.*

The finding of the motion of theſe Magnetical Poles, was by the decreaſing of the Variation.

Which was firſt found to decreaſe by
Mr.

Mr. *John Mair.* Secondly, By Mr. *Edmund Gunter,* Profeſſor of Aſtronomy at *Greſham* Colledge in *London.* Thirdly, By Mr. *Henry Gellibrand,* the next Profeſſor of Aſtronomy after Mr. *Gunter.* Fourthly, By my ſelf, in 1640. And laſtly, By Mr. *Robert Hooke,* and others, in 1665. The encreaſe of it Weſterly, as it ſhall hereafter be declared, it coſt me much time in Calculation before I could ſatisfie my ſelf in it.

Before I come to declare the motion of theſe Magnetick Poles, I ſhall make two Queries.

Firſt, Where theſe Poles are ? Secondly, The Cauſe of their motion.

For Anſwer to the firſt : Out of doubt they are in the Magnetick Sphere, that environeth or compaſſeth the whole Earth.

For Anſwer to the Second ; Their motion is cauſed or proceedeth, or may be cauſed from the motion of the Earth, and may be as great an Argument of the Earths motion, as any yet known (if not a greater) the Earths motion being from Weſt to Eaſt, and a ſolid Body ; and the Magnetick Sphere

that

Fig. I

46: 0.

00 :21

38. 28.

8: 30

20:00

33. 00.

3: 8

51: 57.

11:15.

21: 59.

P

M

V

L
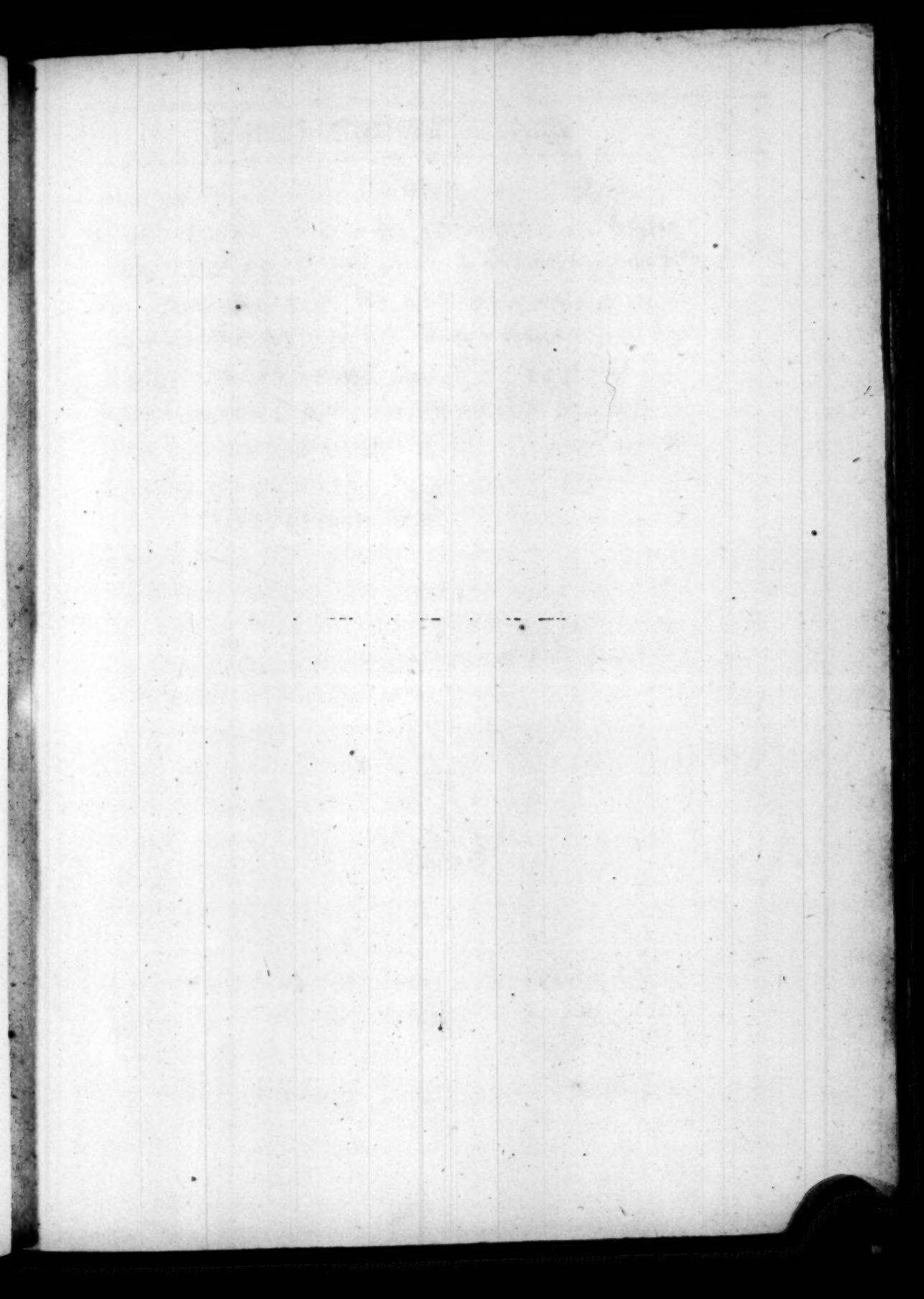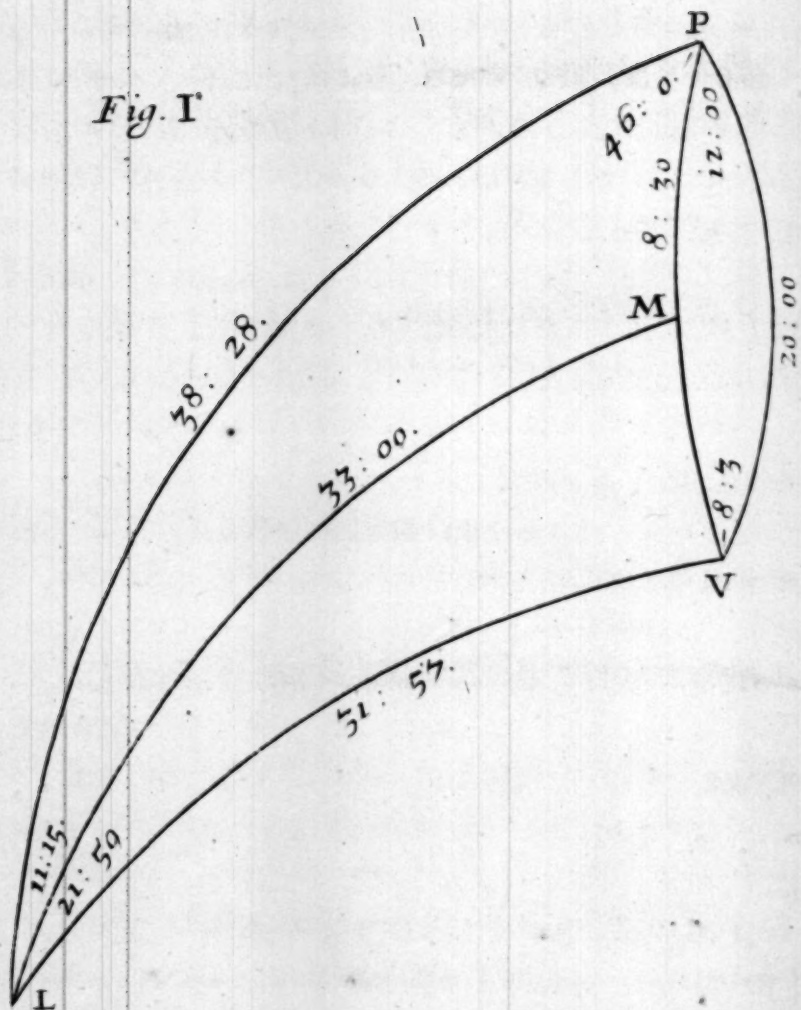
that compaffeth the Earth, being a Subftance that hath not folidity to keep pace with the motion of the Earth, but lofeth in its motion ; and that may be the caufe of the motion of the Magnetick Poles from Eaft to Weft ; and their motion is the caufe of the variating of the variation of the *Magnetical Needle*, and the caufe of the Alteration of the *Inclination* of the *Inclinatory Needle*. *FIG. I.*

Although we have found out that which Mr. *William Burrowes* did not think of, yet we muft not forget him for that which he did ; becaufe by his Obfervations, we come to find out the places of the Magnetick Poles, as it appears in the Scheme above.

Their Period or Revolution is Six Hundred years ; which is Two Hundred and Thirty years more than *Henry Philips* doth allow them in the *Sea-mans Kalendar*; Their yearly motion is fix Tenths of a Degree, that is, Thirty fix Minutes ; which I thus prove : Subftract 1580 out of 1657, the remainer is 77 Years ; which multiply by fix Tenths, the Product will be $46\frac{2}{10}$; which was the Angle at the Pole of the World, M P L, in *June* 1580. From *June*

to *October*, when Mr. *Burrowes* did Observe, was Four Months, which took away the Twelve Minutes.

Mr. *John Kepler* that was Mathematician to the Emperor of *Germany*, by his Chronology of Time, accounts it from the Creation of the World, to the Year of our Lord, 1657, to be 5650 years; and this motion of the Magnetick Poles (notwithstanding it be many times swifter than that motion he accounts upon, yet) gives the same time with his, which makes me much to admire it.

I doubt not but the Learned in Astronomy, will in time collect something more from it (than I have done) or than hath been formerly known.

Their motion is by Sixes, Six Tenths of a Degree in one year, Six Degrees in Ten years, Sixty Degrees in a Hundred years, and Six times Sixty Degrees in Six Hundred years.

I have heard that some Divines in former Dayes have been of opinion, That as the World and all the Creatures were Created in Six Dayes, so the World would continue

tinue Six Thoufand Years; but I will not meddle with that. Thefe Magnetick Poles are now in their Tenth Revolution, and as I faid before, agree in Time with *Kepler's* Motion.

They will be in *June* 1674. Ten Degrees and Twelve Minutes to the Weſtwards of the Meridian of *London*, and Four Degrees and Forty Eight Minutes to the Weſtwards of the Meridian of the *Lizard*.

The uſe of the Horizontal Needle is admirable; yet the motion of it is a forc'd motion, and not natural; as it appears very plain by *Robert Norman* a Compaſs-maker in *Ratcliffe*, above Ninety Years paſt, in his *New Attractive*, who was the firſt that ever we read or heard of, that found out the Inclinatory motion of the *Magnetick Needle*, whoſe Name ought to be remembred for this thing; and Mr. *William Burrowes* for the *Variation* of the *Compaſs*.

Almighty God was pleaſed by theſe two men ſo to honour our Nation, that the Variation and the Inclination of the *Magnetick Needle*, ſhould be firſt found in this Nation, above all the Chriſtian Nations in the World.　　　　C　　　　And

And now Almighty God is pleafed, above Ninety years after them, to make me an Inftrument in his Hand, to put it to an ufe not formerly thought of; that is, to find the *Longitude*, that as the beginning of it was in this Kingdom, fo the conclufion of it fhould be here, for the Honour of our Gracious King's Majefty, and his King-doms, unto whom I humbly befeech Almighty God to grant a long, a profperous, a happy Reign, and Victory over all His Enemies, **Amen.**

Robert Norman, in his *New Attractive*, mentions one *Petro de Medina*, that in a Book of his concerning *Navigation*, did hold it for an Abfurdity for men to fay that the *Magnetick Needle* had any Variation at all; He faid it was an Errour in the mifplacing of the Wires: But leaving him and his Errour, I fhall fhew how Mr. *Norman* came to find the Inclination of the *Inclinatory Needle*, as he himfelf writes, and how he came to think of fuch a Needle; he had made a large Horizontal Needle, and beftowed much time and pains in fitting and polifh-ing of it, and had equally poized it on its Pin,

Pin, and when he had touch'd it with the Loadſtone, and put it on its Pin again, the North end of it inclined ſo low, that it was not fit for uſe; he thought to mend it by cutting off ſome of the end of it, and cut off ſo much that he ſpoiled the Needle; which brought him into a Paſſion with himſelf. After his Paſſion was over, he conſidered with himſelf, whether there might not be ſuch a motion of the Needle, and then made one, and found it ſo; from whence it appears plainly, that the Inclinatory motion of the Needle is the Natural motion; and that the Horizontal motion, although it be of admirable uſe in the world, yet it is a forced motion.

Some years ſince I ſaw an *Inclinatory Needle* of one Doctor *Meret's,* of the Phyſicians Colledge in *London,* which was made by *Robert Norman,* in 1578, it being out of order, I fitted it for him. The uſe of the *Inclinatory Needle* I ſhall hereafter ſhew to find the *Longitude,* which is a uſe that our former Learned Magnetick Philoſophers did not think of in their time, becauſe they knew not the Variating of the Variation.

C 2 We

We are to take notice, that as there is a *Magnetick Sphere* that hath two Poles, so there are other Circles belonging to it, as to the other Spheres, an *Æquator*, *two Colures*, and *Parallel Circles* to the *Æquator*. The *Æquator*, for distinctions sake, I call the *Magnequator*; the *Colure* wherein the Poles are, the *Magnestical Colure*; the other, the *Magnoctial Colure*; the *Magnequator* doth in a manner represent the Moons Difference, because the *Magnoctial Intersections* with the *Æquator* of the Earth, have a Retrograde motion, as the Head and Tail of the *Dragon* hath.

Also the *Magnequator* doth in a manner represent the *Ecliptick*, having a form of situation to the *Æquator* of the Earth, that the *Ecliptick* hath to the *Æquator* of the Heavens; the greatest obliquity being but 8 *d*. 30. *m*. as appeareth in the first Scheme. As by the Latitude and Declination of a Star in the Heavens; and knowing on which side of the *Solstitial Colure* it is, the Right Ascension may be exactly Calculated.

So in this, if the Latitude of any Place be given with the Inclination of the Needle, and on which side of the *Magnetical Solstitial*

Solſtitial Colure it is, the Longitude of the Place may be found from the *Magneſtical Colure*, and from that the Longitude from any place in the world; as I ſhall make it appear by Examples following.

But before I go further, I ſhall ſay ſomething of the Decreaſe of our Variation here at *London*, ſince the time of Mr. *William Burrowes*'s Obſervations in *October* 1580, and ſhall ſet down, what the Variations have been found then and ſince, by Obſervations, and by my Calculation according to the motion of the *Magnetical Poles.*

	d. ' "		d. ' "	
In 1580, M.*W. Burrowes*,	11-15-00.	*Bond*,	11-15-00	
In 1622, M.*Edm. Gunter*,	05-55-37.	*Bond*,	05-57-00	East.
In 1634, M. *H. Gellibrand*,	4-03-00.	*Bond*,	4-01-00	
In 1640, *Bond* & others,	3-06-40.	*Bond*,	2-59-00	

In 1665, Mr. *Robert Hooke*, the Profeſſor of Geometry in *Greſham* Colledge in *London*, with Mr. *William Mar*, Mr. *Richard Shortgrave*, and a Gentleman ſince Deceaſed, and *Henry Bond*, Sen. on the 8th. of *June*, in the King's Majeſties Private Garden at *White-Hall*, obſerved the Variation, and found it to be 1 *d.* 22 *m.* 30 *ſec.* Weſt.

By

By *Bond*'s Calculation, it was then 1 *d.* 25 *m.* 00 *sec.*

I have set down these both by Observations, and also by my Calculations, to give the World satisfaction that I do not delude them, to make them think that I know such things, and cannot prove them.

When any that understand themselves, have made trial by exact Observations, and my Calculations, they will acknowledge me to be honest in that which I have written.

There is one that puts it out in Print, that in 1666, he did Observe at the *Hermitage* in *Wapping*, with a large Quadrant, and found the Variation to be forty one minutes. How large soever his Quadrant was, his Understanding in this Business was very little, and I fear, something else less.

The Variation here at *London* in *June* 1666, was 1 *d.* 35 *m.* and 36 *sec.* I know not what Title to give to that forty one Minutes Observer, except it be, Mr. *Impudent Ignoramus.*

I am sorry that our Nation is so much dishonoured, to have things of this Nature put
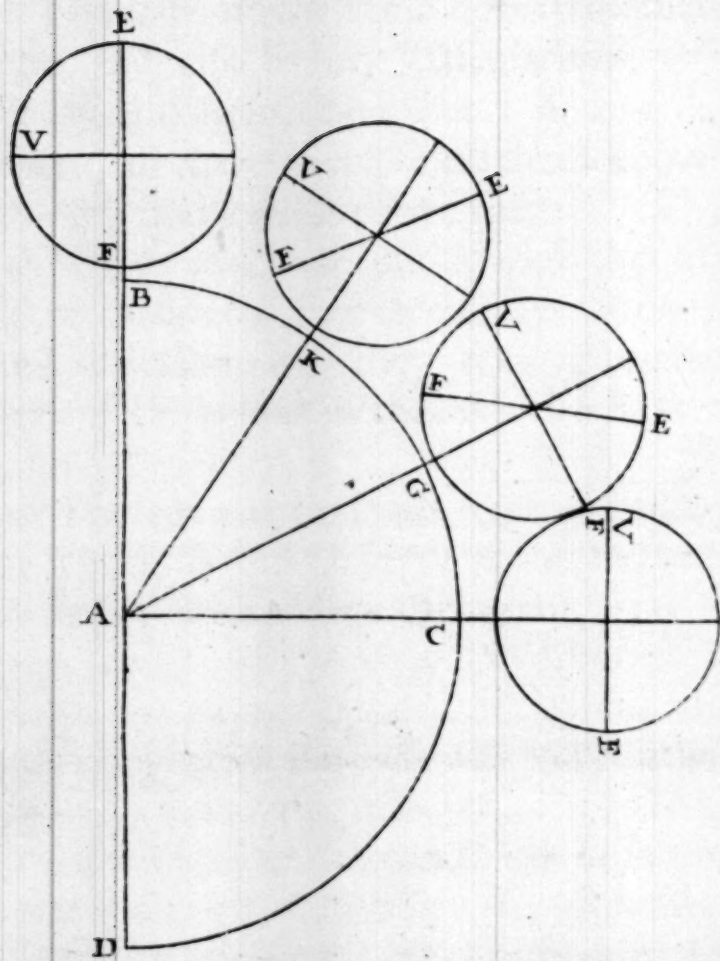
Fig. II

put out in Print, that we are derided by other Nations for them.

As the *Horizontal Needle* hath a double motion about the Round Loadftone, or *Terrula*, fo alfo the *Inclinatory Needle* hath a double motion about the Earth, as it plainly appeareth in the Diagram following.

Wherein, let A be the Center of the Earth, and B C D the one half of the *Magnetical Sphere*, B A D the *Axis* of it; B the North Pole of it, and D the South Pole; A C the *Equator* of it, or the *Magnoëtial*, or rather a Reprefentation of the one half of it; E F the *Inclinatory Needle*, in his Ring; F the North End of it, and E the South End.

The Needle on the *Magnequator* at C, is parallel to the *Magnetical Axis* B A D; but being moved forwards towards B, unto G, the North End F inclines downwards, and fo would the South End E, if it were moved towards D. So there are two motions, one of the *Inftrument*, and another of the *Needle*; and fo it will be at I, and at K, until you come to B, the North *Magnetical Pole*, there will be continually one mo- *FIG. II.*
tion

tion of the *Instrument* , a *Quadrant* from C to
B on the Center of the Earth, and a motion
of the Needle a *Quadrant* from V to F, at
the North *Magnetical Pole* of the Earth, and
then the South End of the *Inclinatory Needle*
will be upwards to the *Zenith* , and the
South Point of the *Horizontal Needle* will be
to the North Pole of the Earth.

One of late was queſtioning in what
part or what Diſtance theſe *Magnetical Poles*
were from the Earth? I anſwer, They
are very near to the Body of the Earth;
becauſe the nearer the *Magnet* , the greater
the ſtrength. Something is to be conſide-
red concerning thoſe Variations of the *Ho-*
rizontal Needle , that are not according to
the ſituation of the place from the *Magne-*
tical Poles, but are contrary, as all the *Weſt-*
Indies, according to the Poles, they ſhould
be Eaſterly, and they are Weſterly, which
is by ſome accidental Cauſe in the Earth;
and their Motion, as I have formerly ſaid,
a forced Motion, and not Natural. Theſe
Variations muſt be always the ſame, ex-
cept we will ſay one piece of the Earth
moves from another, which were very ab-
ſurd.   If

If the *Inclinatory Needle* be fitted as it
ought to be, to turn Horizontally as the
Horizontal Needle doth, it will find an am-
plitude or an *Azimuth*, as well as the *Azi-
muth-Compass*, and hath been fo uſed by
Capt. *John Wood*, now Captain of His Maje-
ſties good Ship *Bone-Adventure.* If the
Inclinatory Needle be not fitted to do
the ſame that the *Horizontal Needle* doth,
it is not worth a ſtraw to be made
uſe of for the *Inclination*; and therefore it is
an Inſtrument of that curioſity in the ma-
king, that it is not for ſuch an one that
will run headlong to make any thing, al-
though he neither underſtand nor know
whether it be right or wrong, nor cares
not ſo he may get Money by it.

In the Year 1665. my Son *Henry Bond*
ſailed to the *Eaſt-Indies* in the good Ship, the
Greyhound of *London*, I ſent by him an *In-
clinatory Needle* of five inches long, in a
Braſs Ring, fitted as it ought to be, to ob-
ſerve with it on the Land; and in the
Year 1667, I wrote to him that the In-
clination of the *Needle* at *Ballaſore*, the
place where they were, was **32** *d.* **10** *m.*

D   and

and that the Variation was 7 *d.* 32 *m.* Weſt. When he came home, he did acknowledge the Inclination was 32 *d.* 15 *m.* and the Variation 7 *d.* 30 *m.* by their *Azimuth-Com-paſs.*

Now by this it is plainly evident that if by the *Longitude* of any place from the *Magneſtical Colure*, the Inclination may be found, then the *Longitude* of any place from the *Magneſtical Colure*, may be found by the Inclination, and by that the Difference of *Longitude* between any two places on the Earth.

I did write in the *Sea-mans Kalendar* above Thirty Years ſince, that without doubt the *Longitude* would be found by the Obſervation of ſomething below the Moon. I have an Obſervation that was made by Mr. *James Moorcock,* above Thirty Years ſince at Cape *Charles,* on the Coaſt of *Virginia*, which Obſervation of his doth very near agree to my Calculation now, notwithſtanding it be ſo long ſince, and I have forgotten the Year when the Obſervation was made; and therefore in finding of the *Longitude,* I ſhall make uſe of my Inclination.

But

But to give the better satisfaction to the World, I shall set down his Observation and my Calculation for this present time.

Mr. *Moorcock*'s Observation of the Inclination, somewhat above 60 *d.* 00 *m.* *Bond's,* 59 *d.* 50 *m.*

Here we may take notice, that although the Alteration of the Inclination be but flow when it hath been at the greatest or least at any place, as here at *London,* since it was at the greatest in 1657, it is altered not full six Minutes to this Year 1673; yet in process of time it alters in some places more than the Variation, and in some places near as much as the Variation. The Alteration of the Inclination here at *London,* is above Twelve Degrees, and therefore very unlikely to find the Latitude by it.

A Question may be made, Whether the *Longitude* may be found at Sea by the *Inclinatory Needle?*

I Answer, It may, if it be fitted and kept as it ought to be, it will do its office as well as the *Azimuth-Compass* doth to find the Variation.

Now I shall set down a Demonstration

of my Son *Henry Bond's* Observation at *Ballasore* in *East-India*, in 1667, which I have before mentioned.

In which Demonstration let the Circle S E P W represent the Meridian of *London*, and let the Circle S M L P N O represent the *Magnestical Colure*, and M the South *Magnepole*, and N the North *Magnepole*, and O R L the *Magnequator*, and let P B S represent the Meridian of *Ballasore*, and N B M the *Magnimeridian* of *Ballasore*, and P the North-Pole of the Earth, and S the South-Pole, and let the Angle W P N be 6 *d.* 00 *m.* that the *Magnepole* is gone from the Meridian of *London*, from 1657, unto 1667, and the Angle B P V 119 *d.* 12 *m.* the difference of Longitude between *London* and *Ballasore*, unto which if we add the Angle W P N 6 *d.* 00 *m,* we have the Angle B P N 125 *d.* 12 *m.* the difference of *Longitude* between *Ballasore* and the *Magnestical Colure*. In the Triangle B P N, we have the Side B P, the Co-latitude of *Ballasore*, 67 *d.* 30 *m.* and the Angle B P N 125 *d.* 12 *m.* and the Side P N 8 *d.* 30 *m.* the distance between the *Magnepole* and the Pole of the Earth; by which we find

Fig. III.
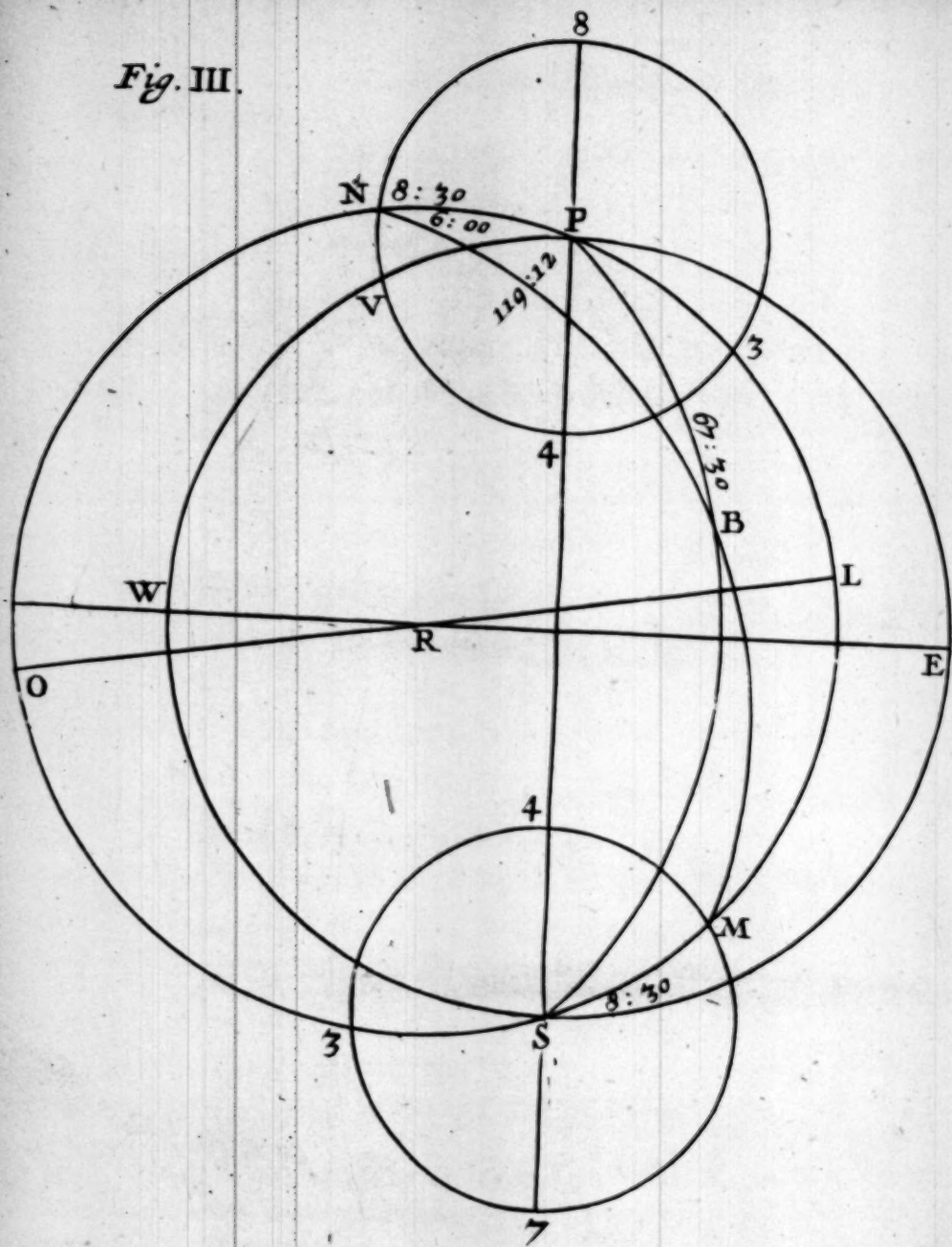
find the Side B N , the diſtance between the *Zenith* of *Ballaſore* and the *Magnepole*, 72 *d.* 33 *m.* which I look in the *Caroline Tables* of Inclinations, and find the Inclination of the Needle to be right againſt it , 32 *d.* 10 *m.* By this we may ſee that if we have the Inclination of the Needle at any place, and know on which ſide of the *Magneſtical Colure* it is, we may find the *Longitude* of the place from the *Magneſtical Colure,* and then knowing the motion of the *Magnepole,* we may find the *Longitude* of the *Magnepole* from the Meridian of *London* , or the *Lizard* , or from any other Meridian ; and ſo by that find the Difference of *Longitude* between any two places in the world ; as I ſhall make it appear by the Examples following ; and firſt *Ballaſore,* as in the following Scheme.

FIG. III

Example I.

At *Ballaſore* (forementioned) in *Eaſt-India,* North Latitude, 22 *d.* 30 *m.* the Complement P B 67 *d.* 30 *m.* and N B 72 *d.* 33 *m.* the Diſtance between the *Zenith* of *Ballaſore,* and the *Magnepole,* and N P 8 *d.* 30 *m.* the

the Diſtance between the *Magnepole* and the
Pole of the Earth.

Here we have alwayes three Sides of a
Spherical Triangle given to find an Angle ;
which is not hard to do: it is no difficult thing
to find the Angle at P, which is the difference
of *Longitude* between the *Magneſtical Colure*
and the Meridian of the place where the
Obſervation is made.

☞ We add the three Sides together, B N ,
72 *d.* 33 *m.* and the Side B P 67 *d.* 30 *m.*
and the Side P N 8 *d.* 30 *m.* their Sum is
148 *d.* 33 *m.* their half Sum 74 *d.* 16 *m.* ½ ;
from which Subſtract 8 *d.* 30 *m.* one con-
taining Side of the Angle ſought, the firſt
Difference is 65 *d.* 46 *m.* ½ ; and Subſtract
the co-latitude of the place, 67 *d.* 30 *m.* the
other containing Side of the Angle ſought,
from the half Sum, and the ſecond Diffe-
rence is 6 *d.* 46 *m.* ¼.

Then add the Sine of the firſt Difference,
65 *d.* 46 *m.* ½ , which Sine is 995996, the
Sine of the ſecond Difference , 6 *d.* 46 *m.* ½ ;
which Sine is 907177, and the *reſiduum* of
the Sine of 67 *d.* 30 *m.* which is 083030,
and the *reſiduum* of the Sine of 67 *d.* 30 *m.*
which

which is 003438. The whole Sum of the two Sines, and the two *Refiduums* is 1989664, the half whereof is 994832, which is the Sine of 62 *d*. 36 *m*. half the Difference of *Longitude* between *Ballafore* and the *Magneftical Colure*, which being doubled, makes 125 *d*. 12 *m*. for the whole Difference of *Longitude*; from which fubftract 6 *d*. 00 *m*. the Difference of *Longitude* between *London* and the *Magneftical Colure*, in the year 1667. and the Remainer is 119 *d*. 12 *m*. the Angle B P V. the Difference of *Longitude* between *London* and *Ballafore*: The like is to be done for any place that is on the North fide of the *Magnequator*.

In the Year 1666, in *June*, the *Magnepole* was in the Meridian of the *Lizard*.

Our Second Example fhall be at the Cape of Good Hope, *in the Year* 1666.

Which is in South-Latitude 35 *d*. 30 *m*. The Inclination of the South end of the *Inclinatory Needle* at that place, is 47 *d*. 5 *m*. to which there anfwers in the *Carolina Tables* 61 *d*. 44 *m*. the Complement of the

Mag-

Magne-latitude, or the Diftance between the Earth-Zenith of the *Cape*, and the South *Magnepole*, as it appears in the Second Demonftration.

Wherein, let the Circle S L E P O W, reprefent the *Magneftical Colure*, and the Meridian of the *Lizard*, P the North Pole, and S the South Pole of the Earth, P C S the Meridian of the *Cape* at C, and let N reprefent the North *Magnepole*, and M the South *Magnepole*, and let the Arch N C M reprefent the *Magnemeridian* of the *Cape*, and O R L, the *Æquator* of the Earth, and W R E the *Magnequator*.

In the Triangle C S M, we have the three Sides given, C S 54 *d*. 30 *m*. the co-latitude of the *Cape*, and S M 8 *d*. 30 *m*. the Diftance of the Pole of the Earth and the *Magnepole*, and C M 61 *d*. 44 *m*. the Diftance between the Earth-Zenith of the *Cape*, and the South *Magnepole*; the Sum of all the three Sides is 124 *d*. 44 *m*. the half Sum is 62 *d*. 22 *m*. From which each containing Side of the Angle required at S, being fubftracted, the firft Difference is 53 *d*. 52 *m*. the fecond Difference is 7 *d*. 52 *m*. the

Sine

Fig. IIII
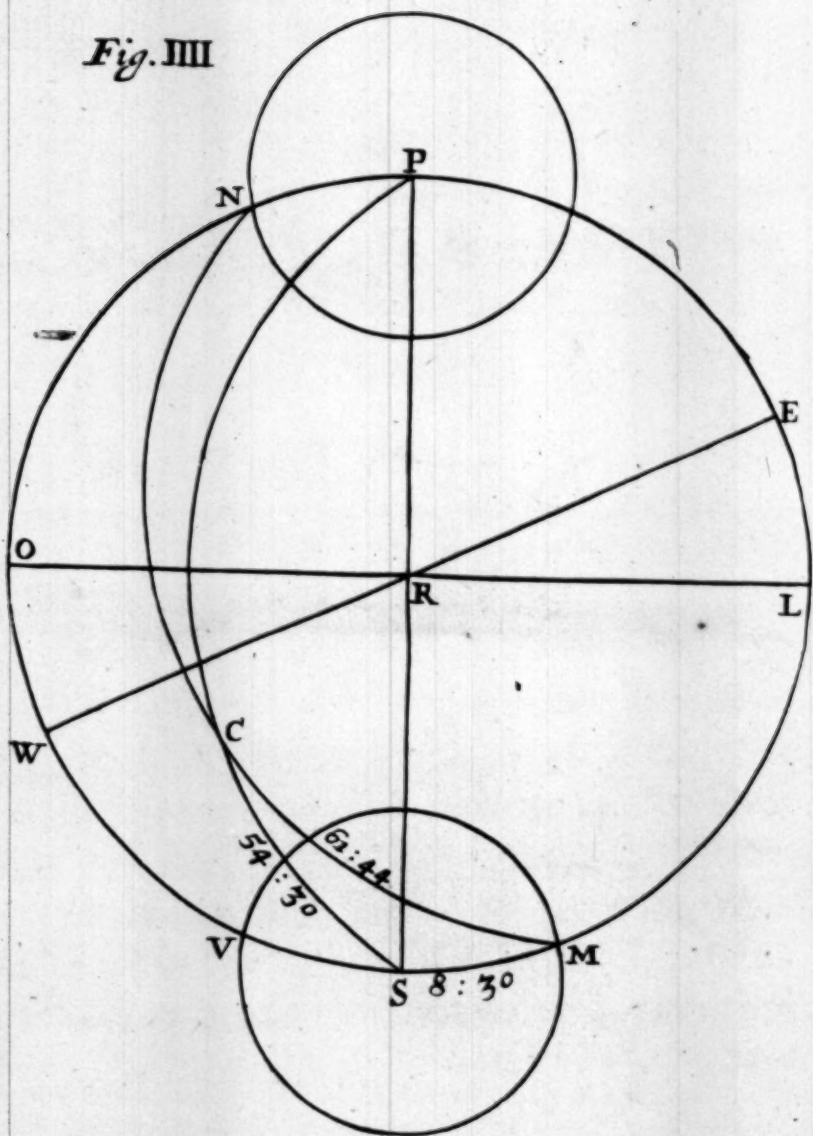
Sine of the firſt Difference, 990722. The Sine of the ſecond Difference, 913630. The Reſiduum of 8 *d.* 30 *m.* is 083053. The Reſiduum of 54 *d.* 30 *m.* 008931. The whole Sum of them is 1996336; the half Sum is 998168, which is the Sine of 73 *d.* 29 *m.* which being doubled, is 146 *d.* 58 *m.* for the Angle C S M; which being ſubſtracted from 180 *d.* 00 *m.* leaves the Angle V S C, the Longitude of the *Cape of Good Hope* from the *Lizard*, whoſe Meridian was the ſame with the *Magneſticial Colure* in the Year 1666, and their Difference of Longitude is 33 *d.* 02 *m.*

FIG.IV.

Our Third Example ſhall be in 1673, between the Lizard *and* Cape Charles *on the Coaſt of* Virginia.

In the Demonſtration, let the Circle S L E P O W repreſent the *Magneſticial Colure*; N the North *Magnepole*, and M the South, P the North Pole of the Earth, and S the South, W R E the Æquator of the Earth, O R L the Magnequator, P V S the Meridian of *Virginia*, viz. of *Cape Charles*;

E   N V M

N V M the *Magnimeridian* of *Cape Charles*, and
V reprefent *Cape Charles*, and let the Circle
S K Q P F, reprefent the *Meridian* of the
Lizard, which is 4 *d.* 12 *m.* to the Eaftwards
of the *Magnefticial Colure*, as it appears in
the Demonftration; the *Inclination* of the
Needle, as is before mentioned, is 59 *d.* 50 *m.*
to which anfwers in the *Caroline Tables* 49 *d.*
18 *m.* the Diftance of the *Earths-Zenith* of
Cape Charles from the North *Magnepole*, the
Side N V, the *co-latitude* of *Cape Charles* 52 *d.*
20 *m.* and P N the Diftance of the two
Poles, 8 *d.* 30 *m.* The Sum of the three
Sides 110 *d.* 8 *m.* the half Sum 55 *d.* 4 *m.*
the firft Difference between 8 *d.* 30 *m.* and
the half Sum, is 46 *d.* 34 *m.* the fecond Dif-
ference between the *co-latitude* of *Cape*
Charles and the half Sum, is 2 *d.* 44 *m.*
the Sine of the firft Difference 986223. the
Sine of the fecond Difference 867840, the
Refiduum of 8 *d.* 30 *m.* is 083029, the *Re-*
fiduum of the Sine of 52 *d.* 20 *m.* 010150.
the Sum of them all is 1947244, the half
Sum is 973622, which is the Sine of 33 *d.*
90 *m.* which being doubled, is 66 *d.* 20 *m.*
unto which, if we add 4 *d.* 12 *m.* the Dif-

ference
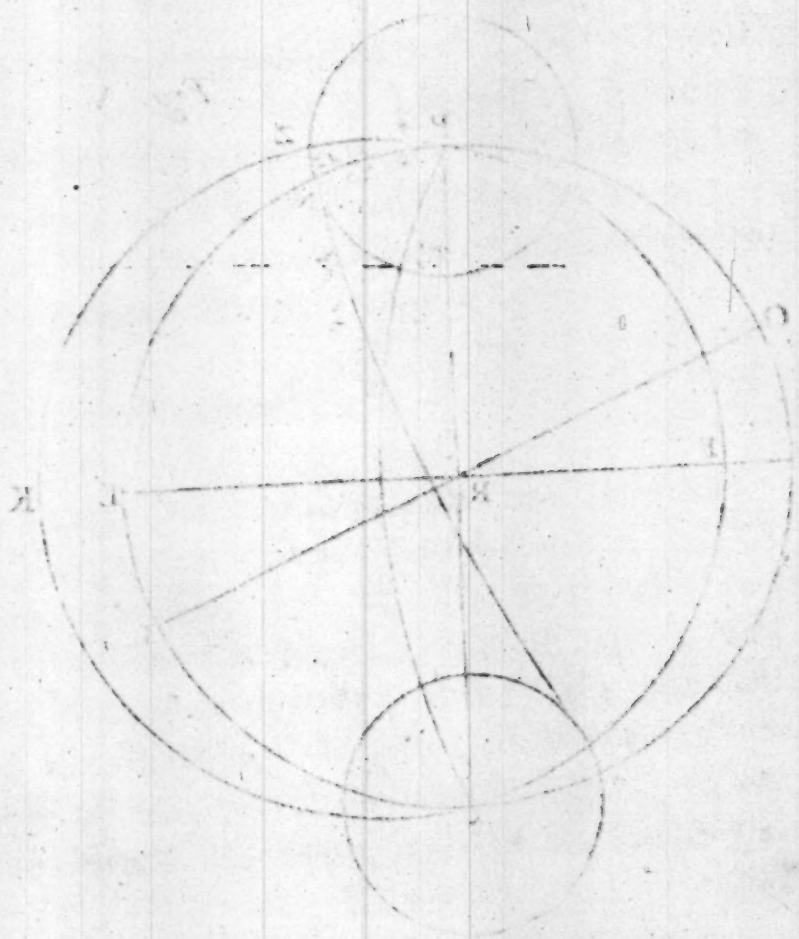
Fig. V
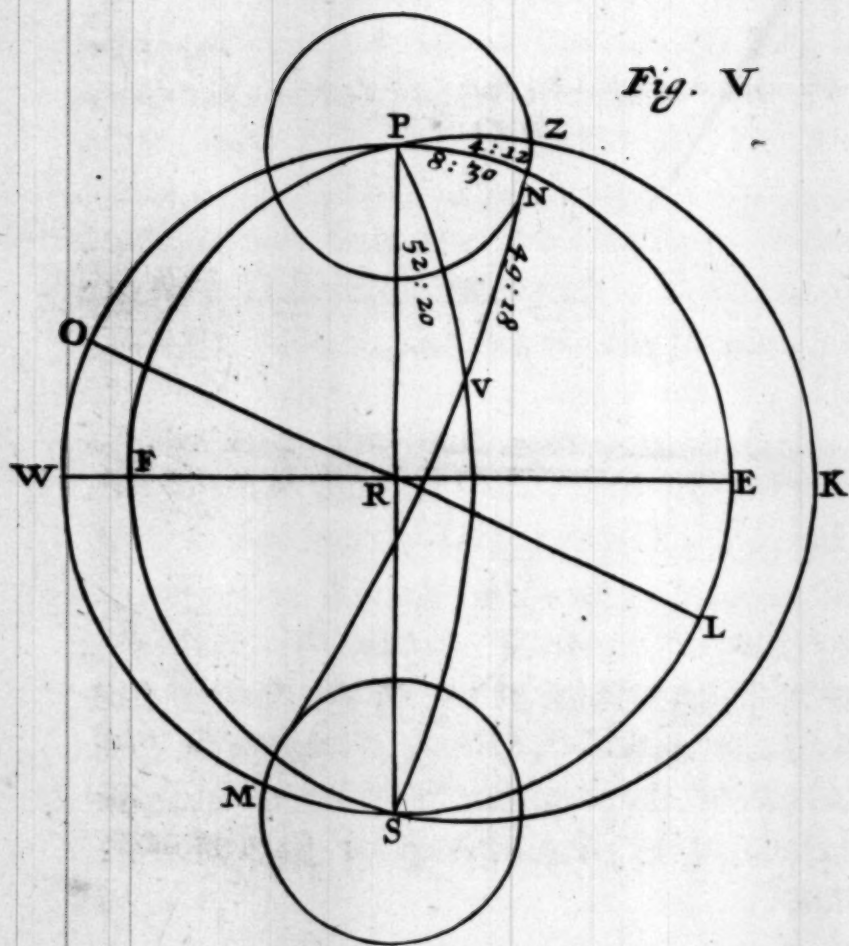
ference of Longitude that the *Magnepole* is gone to the Weftwards of the *Meridian* of the *Lizard* in *June* 1673, the whole Sum is 70 *d.* 12 *m.* the Difference of Longitude between *Cape Charles* and the *Lizard*; which is according to the Account of Capt. *John Whittee*, who found it in feveral Voyages to be 70 *d.* 00 *m.* little more or lefs.

FIG. V.

Our Fourth Example fhall be between the Lizard *and the* Streights *of* Magellan *in* 1673. *by Suppofition, becaufe we have no Obfervation there, but do it according to that which we find to be the trueft Longitude ; and alfo to fhew a Demonftration to know the Longitude of fuch Places as are to the Weftwards, and in South-Latitude may be found.*

In the Demonftration let the Circle S E P W, reprefent the *Magnefticial Colure*, S K Q P F reprefents the *Meridian* of the *Lizard*, and P B S the North Pole of the Earth, and S the South Pole ; P B S, the *Meridian* of the *Streights* of *Magellan*, B Ma the Latitude of it 52 *d.* 20 *m.* and let N reprefent the North *Magnepole*, and M the South *Ma-*

E 2 *gnepole*

gnepole, N Ma M the *Magnemeridian* of the
Streights, and Ma the *Streight* it self.

The *Inclination* of the South end of the
Inclinatory Needle there, 65 *d*. 26 *m*. to which
answers in the *Caroline Tables* 42 *d*. 26 *m*. the
Diftance between the *Earth-Zenith* of the
Streights, and the South *Magnepole*, *viz.* Ma M,
in the Demonftration,

FIG. VI.

Here we have three Sides of a Spherical
Triangle, Ma S the *co-latitude* of the *Streights*,
37 *d*. 40 *m*. and Ma M the *Magne-co-latitude*
of the *Streights*, 42 *d*. 26 *m*. and S M the Di-
ftance of the two Poles, 8 *d*. 30 *m*. the Sum
of the three fides 88 *d*. 36 *m*. the half fum,
44 *d*. 18 *m*. the firft Difference between 8 *d*.
30 *m*. and the half fum 35 *d*. 48 *m*. the fe-
cond Difference 6 *d*. 38 *m*. between the *co-
latitude* of the *Streights* and the half fum.

The fine of the firft Difference, 976712,
the fine of the fecond Difference, 906263,
the *Refiduum* of the fine of the *co-latitude* of
the *Streights*, 021392, the *Refiduum* of the
fine of 8 *d*. 30 *m*. is 083029, the fum of the
four is 1987396, the half fum 993698,
which is the fine of 59 *d*. 52 *m*. which be-
ing doubled, is 119 *d*. 44 *m*. the Angle Ma,
                                    S M,

Fig. VI
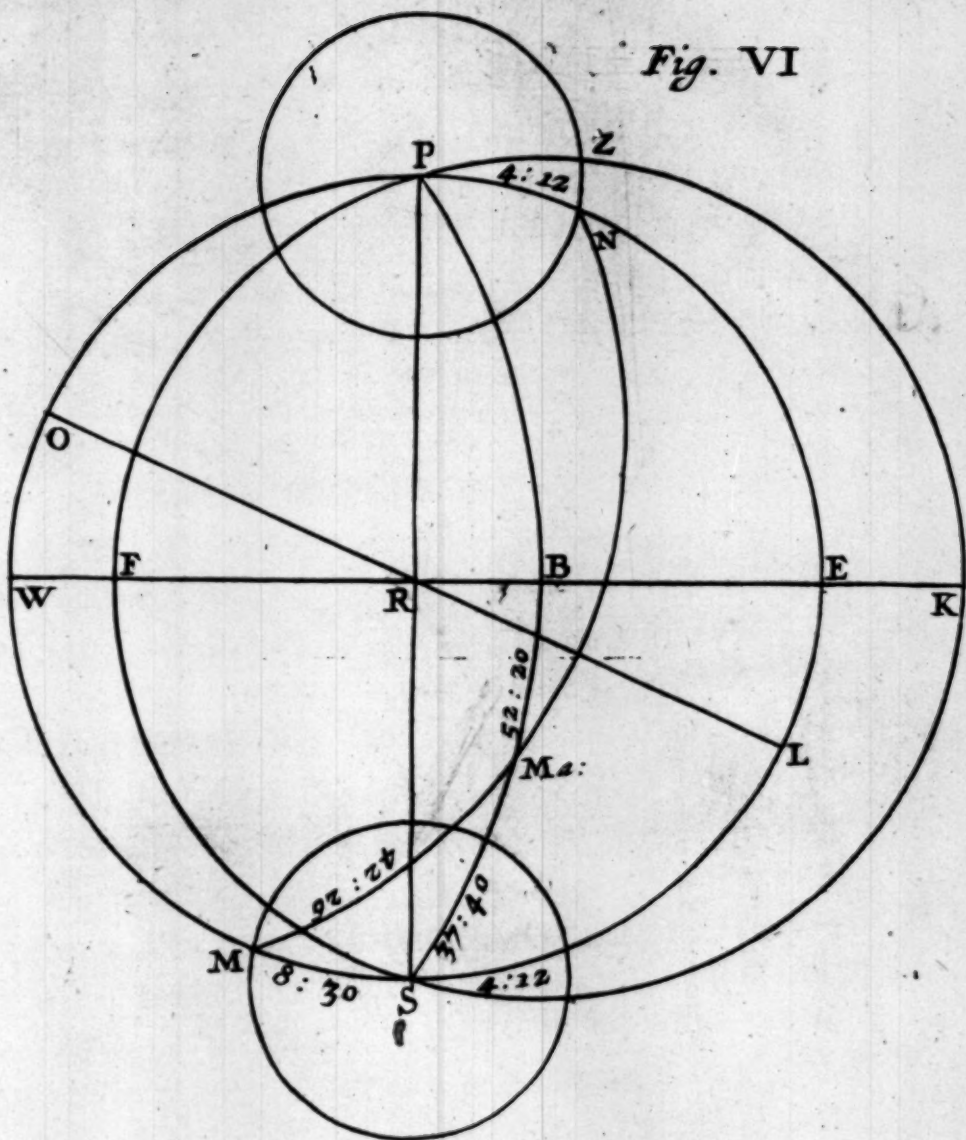
Fig: VII
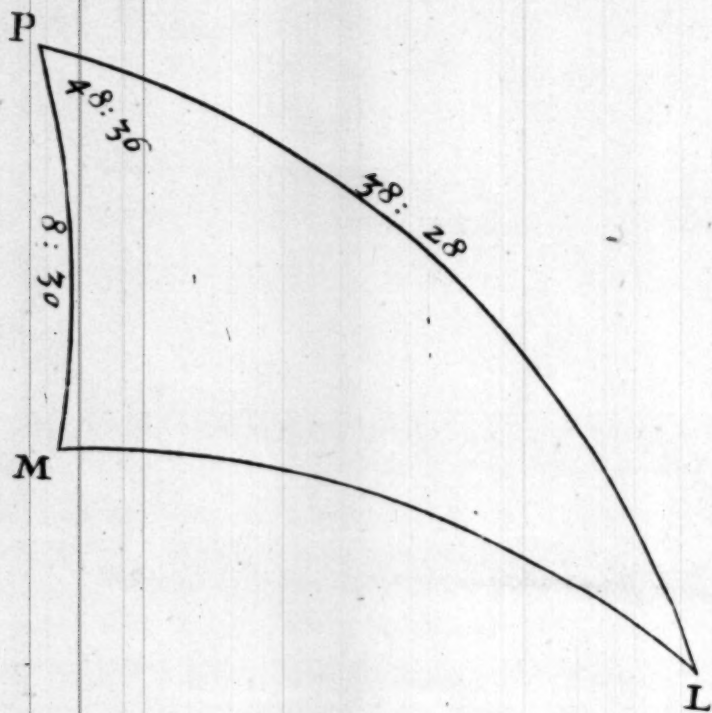
S M, which being fubftracted from 180 d.
00 m, leaves the Angle M*a*, S L , the Lon-
gitude of the *Streights* from the *Magnefticial*
Colure 60 d. 16 m. unto which, if we add
the Angle N P Q, the Difference of Longi-
tude that the *Magnefticial Colure* is to the
Weftward of the *Lizard* in *June* 1673, the
fum is 64 d. 28 m. the Longitude of the
Streights of *Magellan* from the *Lizard*.

For a further Demonftration of this bu-
finefs of Longitude, we will find by our
Calculation *Robert Norman*'s Inclination that
he found in the Year 1576, or elfe one
Year after, which Inclination he writes of
in the end of the Fourth Chapter of his
New Attractive, and faith it was about 71 d.
50 m. fo are his words; now if we go
backwards, accounting Thirty Six Minutes
a Year for the proceffion of the *Magnefticial*
Colure from the Year 1576, unto the Year
1657, the time will be 81 years; which
multiplied by ⁴⁶⁄₁₀, the product will be 48 d.
36 m. the Difference of Longitude between
the *Magnefticial Colure* and the *Meridian* of FIG. VII.
London, in *June* 1576, I begin the Year in
this bufinefs when the Sun is in the North
Tropick.   In

In the Triangle L P M, we have the *co-latitude* of *London*, L P 38 *d*. 28 *m*. and the Distance of the *Magnepole* from the Pole of the Earth, M P, 8 *d*. 30 *m*. and the Angle at P, 48 *d*. 36 *m*. the Difference of Longitude between the *Magnesticial Colure* and the *Meridian* of *London*; by which we find the side L M (the Distance between the *Earths-Zenith* of *London*, and the *Magnepole*) to be 33 *d*. 19 *m*. to which the Inclination against it in the *Caroline Tables*, is 71 *d*. 48 *m*. which differs but two Minutes from that which *Robert Norman* said it was about, *viz*. 71 *d*. 50 *m*.

If *Robert Norman* had set down the Year, and the time of the Year, when his Observation of the *Inclination* was made (as Mr. *Burrowes* did of the *Variation*) we should not have differed any thing at all from him; the *Inclination* was then encreasing, but now it is decreasing, and will be until the Year 1957, and then the *Variation* will be nothing at *London*, as it was nothing in 1657, being 300 years distant.

If we divide the Year into Thirty Six parts, we shall find in what time the procession of the *Magnesticial Colure* goeth forwards

wards one Minute, or one Mile of the *Equator* of the Earth, which time will be Ten Dayes, Three Hours, and Thirty Minutes; which being multiplied by 36, the Product will be 365 Dayes, and 6 Hours.

Having gone thus far to find in what time the *Magnesticial Colure* goeth forwards one Mile of the *Æquator* of the Earth, if we examine how much it goeth forward in 24 hours, it will be 591.37 Foot, and in one hour 24.64 Foot; here we account one Mile according to Mr. *Richard Norwood*'s Experiment set down in his *Seaman's Practice*, which is 6000 *English* Feet to one Mile or Minute of the *Æquator* or *Meridian*, according to the *French* 26.39 in one hour, and in one Minute 5.278 inches.

The last thing shall be to find the least and the greatest *Inclination* of the Inclinatory Needle in any Latitude.

Subftract 8 *d.* 30 *m.* from the Complement of the Latitude, and look the remainer in the Tables, and right against it is the greatest Inclination in that Latitude, and add

8 *d.*

8 d. 30 m. to the Complement of the Latitude, and look the sum in the Tables, and right against it is the least Inclination.

Example 1.

Here at *London* the Complement of the Latitude 38 d. 28 m. and 8 d. 30 m. added together, the sum is 46 d. 58. m. against which, there is in the Table 61 d. 50 m. the least Inclination.

And subſtract 8 d. 30 m. from 38 d. 28 m. and the Remainer is 29 d. 58 m. against which in the Table is 73 d. 55 m. the greateſt Inclination here at *London*, which was in the Year 1657.

If the Complement of the Latitude and 8 d. 30 m. added together, exceed 90 d. 00 m. Subſtract it out of 180 d. 00 m. and look the remainer in the Table; then if the Latitude given be North, the leaſt Inclination is of the South end of the *Needle* : But if the Latitude given be South, the leaſt Inclination is of the North end of the *Needle.*

Example

Example II.

In North Latitude 7 *d*. 00 *m*. the Complement, 83 *d*. 00 *m*. unto which, 8 *d*. 30 *m*. added makes 91 *d*. 30 *m*. the remainer to 180 *d*. 00 *m*. is 88 *d*. 30 *m*. againſt which in the Table, is 3 *d*. 00 *m*. the leaſt Inclination of the South end of the *Needle*, the greateſt Inclination will be of the North end.

Then Subſtract 8 *d*. 30 *m*. from 83 *d*. 00 *m*. the complement of the Latitude; the remainer is 74 *d*. 30 *m*. againſt which in the Table is 29 *d*. 00 *m*. for the greateſt Inclination of the North end of the *Needle* in that Latitude.

Here is the Concluſion of Thirty Eight Years Magnetick Study and Obſervations.

I know when this Myſtery comes to be publickly and foreignly known, it will be the admiration of all the Chriſtian Nations in the world; What then ſhall any man have high thoughts of himſelf for it? God forbid: Far be it from him; let

F   him

him look upon himself as an Instrument in the Hand of Almighty God, to declare that which he hath concealed, untill his own Time came that he was pleased to make it known, for his own Glory, and the Benefit of Men in the World.

Therefore unto Almighty God be all the Praise and Glory of This, and all the rest of his Wonderful Works.

Here

Here follow the CAROLINE TABLES of the
Complements of the Magnilatitudes to every
Five Minutes of Inclination of the Inclina-
tory Needle from the Magnequator unto
84 d. 01 m. of Magnilatitude, and 87 d.
00 m. of Inclination.
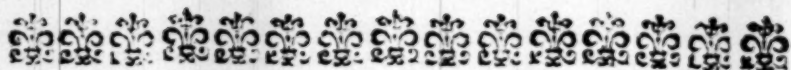
d. m.	d. m.	d. m.	d. m.	d. m.	d. m.
0 05	89 58	2 35	88 43	5 05	87 27
0 10	89 55	2 40	88 40	5 10	87 25
0 15	89 53	2 45	88 38	5 15	87 22
0 20	89 50	2 50	88 35	5 20	87 20
0 25	89 48	2 55	88 32	5 25	87 17
0 30	89 45	3 00	88 30	5 30	87 15
0 35	89 43	3 05	88 28	5 35	87 12
0 40	89 40	3 10	88 25	5 40	87 10
0 45	89 38	3 15	88 22	5 45	87 07
0 50	89 35	3 20	88 20	5 50	87 05
0 55	89 33	3 25	88 18	5 55	87 02
1 00	89 30	3 30	88 15	6 00	87 00
1 05	89 28	3 35	88 13	6 05	86 57
1 10	89 25	3 40	88 10	6 10	86 55
1 15	89 23	3 45	88 08	6 15	86 52
1 20	89 20	3 50	88 05	6 20	86 50
1 25	89 18	3 55	88 03	6 25	86 47
1 30	89 15	4 00	88 00	6 30	86 45
1 35	89 13	4 05	87 57	6 35	86 42
1 40	89 10	4 10	87 55	6 40	86 40
1 45	89 08	4 15	87 53	6 45	86 37
1 50	89 05	4 20	87 50	6 50	86 35
1 55	89 03	4 25	87 48	6 55	86 32
2 00	89 00	4 30	87 45	7 00	86 29
2 05	88 58	4 35	87 42	7 05	86 27
2 10	88 55	4 40	87 40	7 10	86 24
2 15	88 53	4 45	87 37	7 15	86 21
2 20	88 50	4 50	87 35	7 20	86 19
2 25	88 48	4 55	87 32	7 25	86 16
2 30	88 45	5 00	87 30	7 30	86 14

7 35

d.	m.	d.	m.	d.	m.	d.	m.	d.	m.	d.	m.
7	35	86	11	10	05	84	55	12	35	83	38
7	40	86	09	10	10	84	53	12	40	83	35
7	45	86	06	10	15	84	50	12	45	83	32
7	50	86	04	10	20	84	47	12	50	83	30
7	55	86	01	10	25	84	45	12	55	83	27
8	00	85	59	10	30	84	42	13	00	83	25
8	05	85	56	10	35	84	40	13	05	83	22
8	10	85	54	10	40	84	37	13	10	83	20
8	15	85	51	10	45	84	35	13	15	83	17
8	20	85	49	10	50	84	32	13	20	83	14
8	25	85	46	10	55	84	29	13	25	83	12
8	30	85	44	11	00	84	27	13	30	83	09
8	35	85	41	11	05	84	24	13	35	83	07
8	40	85	39	11	10	84	22	13	40	83	04
8	45	85	36	11	15	84	19	13	45	83	02
8	50	85	34	11	20	84	17	13	50	82	59
8	55	85	31	11	25	84	14	13	55	82	56
9	00	85	29	11	30	84	12	14	00	82	54
9	05	85	26	11	35	84	09	14	05	82	51
9	10	85	23	11	40	84	06	14	10	82	48
9	15	85	20	11	45	84	04	14	15	82	46
9	20	85	18	11	50	84	01	14	20	82	43
9	25	85	16	11	55	83	58	14	25	82	41
9	30	85	13	12	00	83	56	14	30	82	38
9	35	85	10	12	05	83	53	14	35	82	35
9	40	85	08	12	10	83	51	14	40	82	33
9	45	85	05	12	15	83	48	14	45	82	30
9	50	85	03	12	20	83	46	14	50	82	27
9	55	85	01	12	25	83	43	14	55	82	25
10	00	84	58	12	30	83	40	15	00	82	22

15 05

d. m.	d. m.	d. m.	d. m.	d. m.	d. m.
15 05	82 20	17 35	81 00	20 05	79 38
15 10	82 17	17 40	80 57	20 10	79 36
15 15	82 14	17 45	80 54	20 15	79 33
15 20	82 12	17 50	80 51	20 20	79 30
15 25	82 09	17 55	80 49	20 25	79 28
15 30	82 06	18 00	80 46	20 30	79 25
15 35	82 04	18 05	80 44	20 35	79 22
15 40	82 01	18 10	80 41	20 40	79 19
15 45	81 58	18 15	80 38	20 45	79 16
15 50	81 56	18 20	80 35	20 50	79 14
15 55	81 53	18 25	80 33	20 55	79 11
16 00	81 50	18 30	80 30	21 00	79 08
16 05	81 48	18 35	80 27	21 05	79 05
16 10	81 45	18 40	80 25	21 10	79 03
16 15	81 43	18 45	80 22	21 15	79 00
16 20	81 40	18 50	80 19	21 20	78 58
16 25	81 37	18 55	80 17	21 25	78 55
16 30	81 35	19 00	80 14	21 30	78 52
16 35	81 32	19 05	80 11	21 35	78 48
16 40	81 29	19 10	80 08	21 40	78 45
16 45	81 26	19 15	80 06	21 45	78 42
16 50	81 24	19 20	80 03	21 50	78 40
16 55	81 21	19 25	80 00	21 55	78 37
17 00	81 19	19 30	79 58	22 00	78 35
17 05	81 16	19 35	79 55	22 05	78 32
17 10	81 13	19 40	79 52	22 10	78 29
17 15	81 10	19 45	79 49	22 15	78 26
17 20	81 08	19 50	79 47	22 20	78 23
17 25	81 05	19 55	79 44	22 25	78 21
17 30	81 03	20 00	79 41	22 30	78 18
				22 35	

d.	m.	d.	m.	d.	m.	d.	m.	d.	m.	d.	m.
22	35	78	15	25	05	76	50	27	35	75	22
22	40	78	12	25	10	76	47	27	40	75	19
22	45	78	10	25	15	76	44	27	45	75	16
22	50	78	07	25	20	76	41	27	50	75	13
22	55	78	04	25	25	76	38	27	55	75	10
23	00	78	01	25	30	76	35	28	00	75	07
23	05	77	58	25	35	76	32	28	05	75	04
23	10	77	55	25	40	76	29	28	10	75	01
23	15	77	53	25	45	76	26	28	15	74	58
23	20	77	50	25	50	76	24	28	20	74	55
23	25	77	47	25	55	76	21	28	25	74	52
23	30	77	44	26	00	76	18	28	30	74	49
23	35	77	41	26	05	76	15	28	35	74	46
23	40	77	39	26	10	76	12	28	40	74	43
23	45	77	36	26	15	76	09	28	45	74	40
23	50	77	33	26	20	76	06	28	50	74	36
23	55	77	30	26	25	76	03	28	55	74	33
24	00	77	27	26	30	76	00	29	00	74	30
24	05	77	24	26	35	75	57	29	05	74	27
24	10	77	21	26	40	75	54	29	10	74	24
24	15	77	18	26	45	75	51	29	15	74	21
24	20	77	15	26	50	75	48	29	20	74	18
24	25	77	13	26	55	75	45	29	25	74	15
24	30	77	10	27	00	75	42	29	30	74	12
24	35	77	07	27	05	75	39	29	35	74	09
24	40	77	04	27	10	75	36	29	40	74	06
24	45	77	01	27	15	75	34	29	45	74	03
24	50	76	58	27	20	75	31	29	50	74	00
24	55	76	55	27	25	75	28	29	55	73	57
25	00	76	52	27	30	75	25	30	00	73	54

30 05

d. m.	d. m.	d. m.	d. m.	d. m.	d. m.
30 05	73 51	32 35	72 17	35 05	70 39
30 10	73 48	32 40	72 14	35 10	70 36
30 15	73 45	32 45	72 10	35 15	70 32
30 20	73 42	32 50	72 07	35 20	70 29
30 25	73 38	32 55	72 04	35 25	70 26
30 30	73 35	33 00	72 01	35 30	70 22
30 35	73 32	33 05	71 58	35 35	70 19
30 40	73 29	33 10	71 55	35 40	70 16
30 45	73 26	33 15	71 52	35 45	70 12
30 50	73 23	33 20	71 48	35 50	70 09
30 55	73 20	33 25	71 45	35 55	70 05
31 00	73 17	33 30	71 41	36 00	70 02
31 05	73 13	33 35	71 38	36 05	69 59
31 10	73 10	33 40	71 35	36 10	69 56
31 15	73 07	33 45	71 32	36 15	69 52
31 20	73 04	33 50	71 28	36 20	69 49
31 25	73 01	33 55	71 25	36 25	69 45
31 30	72 58	34 00	71 22	36 30	69 42
31 35	72 55	34 05	71 18	36 35	69 38
31 40	72 52	34 10	71 15	36 40	69 35
31 45	72 49	34 15	71 12	36 45	69 32
31 50	72 45	34 20	71 09	36 50	69 28
31 55	72 42	34 25	71 05	36 55	69 25
32 00	72 39	34 30	71 02	37 00	69 21
32 05	72 36	34 35	70 59	37 05	69 18
32 10	72 33	34 40	70 56	37 10	69 14
32 15	72 29	34 45	70 52	37 15	69 11
32 20	72 26	34 50	70 49	37 20	69 07
32 25	72 23	34 55	70 46	37 25	69 04
32 30	72 20	35 00	70 42	37 30	69 01

G

37 35

d.	m.	d.	m.	d.	m.	d.	m.	d.	m.	d.	m.
37	35	68	57	40	05	67	10	42	35	65	19
37	40	68	54	40	10	67	06	42	40	65	15
37	45	68	50	40	15	67	03	42	45	65	12
37	50	68	47	40	20	67	00	42	50	65	08
37	55	68	43	40	25	66	56	42	55	65	04
38	00	68	40	40	30	66	53	43	00	65	00
38	05	68	36	40	35	66	49	43	05	64	56
38	10	68	33	40	40	66	45	43	10	64	53
38	15	68	29	40	45	66	42	43	15	64	49
38	20	68	26	40	50	66	38	43	20	64	45
38	25	68	22	40	55	66	34	43	25	64	41
38	30	68	19	41	00	66	30	43	30	64	37
38	35	68	15	41	05	66	27	43	35	64	33
38	40	68	12	41	10	66	23	43	40	64	29
38	45	68	08	41	15	66	20	43	45	64	25
38	50	68	05	41	20	66	16	43	50	64	21
38	55	68	01	41	25	66	12	43	55	64	17
39	00	67	57	41	30	66	08	44	00	64	14
39	05	67	54	41	35	66	04	44	05	64	10
39	10	67	50	41	40	66	01	44	10	64	06
39	15	67	47	41	45	65	57	44	15	64	02
39	20	67	43	41	50	65	53	44	20	63	58
39	25	67	40	41	55	65	50	44	25	63	54
39	30	67	36	42	00	65	46	44	30	63	50
39	35	67	33	42	05	65	42	44	35	63	46
39	40	67	29	42	10	65	38	44	40	63	42
39	45	67	26	42	15	65	34	44	45	63	38
39	50	67	22	42	20	65	31	44	50	63	34
39	55	67	18	42	25	65	27	44	55	63	30
40	00	67	14	42	30	65	23	45	00	63	26

45 05

d.	m.	d.	m.	d.	m.	d.	m.	d.	m.	d.	m.
45	05	63	22	47	35	61	19	50	05	59	08
45	10	63	18	47	40	61	14	50	10	59	04
45	15	63	14	47	45	61	10	50	15	58	59
45	20	63	10	47	50	61	06	50	20	58	55
45	25	63	06	47	55	61	02	50	25	58	50
45	30	63	02	48	00	60	57	50	30	58	46
45	35	62	58	48	05	60	53	50	35	58	41
45	40	62	54	48	10	60	49	50	40	58	37
45	45	62	50	48	15	60	44	50	45	58	32
45	50	62	46	48	20	60	40	50	50	58	27
45	55	62	42	48	25	60	36	50	55	5S	23
46	00	62	38	48	30	60	32	51	00	58	18
46	05	62	34	48	35	60	27	51	05	58	14
46	10	62	30	48	40	60	23	51	10	58	09
46	15	62	25	48	45	60	19	51	15	58	05
46	20	62	21	48	50	60	14	51	20	58	00
46	25	62	17	48	55	60	10	51	25	57	56
46	30	62	13	49	00	60	06	51	30	57	51
46	35	62	09	49	05	60	01	51	35	57	46
46	40	62	05	49	10	59	57	51	40	57	41
46	45	62	00	49	15	59	52	51	45	57	37
46	50	61	56	49	20	59	48	51	50	57	32
46	55	61	52	49	25	59	44	51	55	57	28
47	00	61	48	49	30	59	39	52	00	57	23
47	05	61	44	49	35	59	35	52	05	57	18
47	10	61	40	49	40	59	30	52	10	57	14
47	15	61	35	49	45	59	26	52	15	57	09
47	20	61	31	49	50	59	22	52	20	57	04
47	25	61	27	49	55	59	17	52	25	56	59
47	30	61	23	50	00	59	13	52	30	56	55

G 2   52 35.

d.	m.	d.	m.	d.	m.	d.	m.	d.	m.	d.	m.
52	35	56	50	55	05	54	23	57	35	51	47
52	40	56	45	55	10	54	18	57	40	51	42
52	45	56	40	55	15	54	13	57	45	51	36
52	50	56	36	55	20	54	08	57	50	51	31
52	55	56	31	55	25	54	03	57	55	51	26
53	00	56	26	55	30	53	58	58	00	51	20
53	05	56	21	55	35	53	53	58	05	51	15
53	10	56	16	55	40	53	48	58	10	51	09
53	15	56	12	55	45	53	43	58	15	51	04
53	20	56	07	55	50	53	37	58	20	50	58
53	25	56	02	55	55	53	32	58	25	50	53
53	30	55	57	56	00	53	27	58	30	50	47
53	35	55	52	56	05	53	22	58	35	50	42
53	40	55	47	56	10	53	17	58	40	50	36
53	45	55	43	56	15	53	12	58	45	50	31
53	50	55	38	56	20	53	06	58	50	50	25
53	55	55	33	56	25	53	01	58	55	50	20
54	00	55	28	56	30	52	56	59	00	50	14
54	05	55	23	56	35	52	51	59	05	50	09
54	10	55	18	56	40	52	45	59	10	50	03
54	15	55	13	56	45	52	40	59	15	49	57
54	20	55	08	56	50	52	35	59	20	49	52
54	25	55	03	56	55	52	30	59	25	49	46
54	30	54	58	57	00	52	24	59	30	49	40
54	35	54	53	57	05	52	19	59	35	49	35
54	40	54	48	57	10	52	14	59	40	49	29
54	45	54	43	57	15	52	09	59	45	49	24
54	50	54	38	57	20	52	03	59	50	49	18
54	55	54	33	57	25	51	58	59	55	49	12
55	00	54	28	57	30	51	52	60	00	49	06

60 05

d.	m.	d.	m.	d.	m.	d.	m.	d.	m.	d.	m.
60	05	49	01	62	35	46	03	65	05	42	54
60	10	48	55	62	40	45	57	65	10	42	47
60	15	48	49	62	45	45	51	65	15	42	41
60	20	48	43	62	50	45	45	65	20	42	34
60	25	48	38	62	55	45	39	65	25	42	27
60	30	48	32	63	00	45	32	65	30	42	21
60	35	48	26	63	05	45	26	65	35	42	14
60	40	48	20	63	10	45	20	65	40	42	08
60	45	48	14	63	15	45	14	65	45	42	01
60	50	48	09	63	20	45	07	65	50	41	54
60	55	48	03	63	25	45	01	65	55	41	48
61	00	47	57	63	30	44	55	66	00	41	41
61	05	47	51	63	35	44	49	66	05	41	34
61	10	47	45	63	40	44	42	66	10	41	28
61	15	47	39	63	45	44	36	66	15	41	21
61	20	47	33	63	50	44	30	66	20	41	14
61	25	47	27	63	55	44	24	66	25	41	07
61	30	47	21	64	00	44	17	66	30	41	01
61	35	47	16	64	05	44	11	66	35	40	54
61	40	47	10	64	10	44	05	66	40	40	47
61	45	47	04	64	15	43	58	66	45	40	40
61	50	46	58	64	20	43	52	66	50	40	33
61	55	46	52	64	25	43	45	66	55	40	26
62	00	46	46	64	30	43	39	67	00	40	20
62	05	46	39	64	35	43	33	67	05	40	13
62	10	46	34	64	40	43	26	67	10	40	06
62	15	46	28	64	45	43	20	67	15	39	59
62	20	46	21	64	50	43	13	67	20	39	52
62	25	46	15	64	55	43	07	67	25	39	46
62	30	46	09	65	00	43	00	67	30	39	38

67 35

d.	m.	d.	m.	d.	m.	d.	m.	d.	m.	d.	m.
67	35	39	32	70	05	35	56	72	35	32	06
67	40	39	24	70	10	35	48	72	40	31	58
67	45	39	17	70	15	35	41	72	45	31	51
67	50	39	10	70	20	35	33	72	50	31	43
67	55	39	03	70	25	35	26	72	55	31	35
68	00	38	56	70	30	35	18	73	00	31	27
68	05	38	49	70	35	35	11	73	05	31	19
68	10	38	42	70	40	35	03	73	10	31	11
68	15	38	35	70	45	34	56	73	15	31	03
68	20	38	28	70	50	34	48	73	20	30	55
68	25	38	21	70	55	34	41	73	25	30	47
68	30	38	14	71	00	34	33	73	30	30	39
68	35	38	07	71	05	34	26	73	35	30	31
68	40	38	00	71	10	34	18	73	40	30	22
68	45	37	52	71	15	34	11	73	45	30	14
68	50	37	45	71	20	34	03	73	50	30	06
68	55	37	38	71	25	33	55	73	55	29	58
69	00	37	32	71	30	33	47	74	00	29	50
69	05	37	24	71	35	33	40	74	05	29	42
69	10	37	16	71	40	33	32	74	10	29	34
69	15	37	09	71	45	33	24	74	15	29	26
69	20	37	02	71	50	33	16	74	20	29	18
69	25	36	54	71	55	33	09	74	25	29	10
69	30	36	47	72	00	33	01	74	30	29	01
69	35	36	40	72	05	32	53	74	35	28	53
69	40	36	32	72	10	32	45	74	40	28	44
69	45	36	25	72	15	32	38	74	45	28	36
69	50	36	18	72	20	32	30	74	50	28	28
69	55	36	10	72	25	32	22	74	55	28	20
70	00	36	03	72	30	32	14	75	00	28	11

75 05

d.	m.	d.	m.	d.	m.	d.	m.	d.	m.	d.	m.
75	05	28	03	77	35	23	46	80	05	19	16
75	10	27	55	77	40	23	37	80	10	19	07
75	15	27	46	77	45	23	28	80	15	18	58
75	20	27	38	77	50	23	20	80	20	18	49
75	25	27	29	77	55	23	11	80	25	18	40
75	30	27	21	78	00	23	02	80	30	18	30
75	35	27	12	78	05	22	53	80	35	18	21
75	40	27	04	78	10	22	44	80	40	18	12
75	45	26	56	78	15	22	35	80	45	18	02
75	50	26	47	78	20	22	26	80	50	17	53
75	55	26	39	78	25	22	17	80	55	17	44
76	00	26	30	78	30	22	08	81	00	17	35
76	05	26	22	78	35	21	59	81	05	17	25
76	10	26	13	78	40	21	51	81	10	17	16
76	15	26	05	78	45	21	41	81	15	17	07
76	20	25	56	78	50	21	33	81	20	16	57
76	25	25	47	78	55	21	24	81	25	16	48
76	30	25	39	79	00	21	15	81	30	16	38
76	35	25	30	79	05	21	06	81	35	16	29
76	40	25	22	79	10	20	57	81	40	16	20
76	45	25	13	79	15	20	47	81	45	16	10
76	50	25	04	79	20	20	38	81	50	16	01
76	55	24	56	79	25	20	29	81	55	15	52
77	00	24	47	79	30	20	20	82	00	15	42
77	05	24	38	79	35	20	11	82	05	15	33
77	10	24	30	79	40	20	02	82	10	15	23
77	15	24	21	79	45	19	53	82	15	15	14
77	20	24	12	79	50	19	44	82	20	15	04
77	25	24	03	79	55	19	35	82	25	14	55
77	30	23	55	80	00	19	26	82	30	14	45
								82	35		

d.	m.	d.	m.	d.	m.	d.	m.	d.	m.	d.	m.
82	35	14	36	84	05	11	43	85	35	08	47
82	40	14	26	84	10	11	33	85	40	08	37
82	45	14	17	84	15	11	23	85	45	08	27
82	50	14	07	84	20	11	13	85	50	08	17
82	55	13	58	84	25	11	04	85	55	08	07
83	00	13	48	84	30	10	55	86	00	07	58
83	05	13	39	84	35	10	44	86	05	07	48
83	10	13	29	84	40	10	34	86	10	07	38
83	15	13	19	84	45	10	24	86	15	07	28
83	20	13	10	84	50	10	14	86	20	07	18
83	25	13	00	84	55	10	05	86	25	07	08
83	30	12	50	85	00	09	55	86	30	06	59
83	35	12	40	85	05	09	46	86	35	06	49
83	40	12	31	85	10	09	36	86	40	06	39
83	45	12	21	85	15	09	26	86	45	06	29
83	50	12	12	85	20	09	16	86	50	06	19
83	55	12	02	85	25	09	06	86	55	06	09
84	00	11	52	85	30	08	57	87	00	05	59

These TABLES *of* Latitude, Longitude, *and* Inclination, *may make Tryal whether the* Places *in them be truly Scituated in the* Mapps *or not; for if the* Inclination *be not the same that it is in this* TABLE *they are not, and then by the* Inclination *that they observe, and the help of the* CAROLINE TABLES *for* Longitude, *they may be Corrected, as it is plain by the* Examples *in the* Treatise *before.* The Longitudes *East and West in the* Tables, *are to be accounted from* LONDON.

A TABLE *of the* Latitude, Longitude, *and the* Inclination *of the* Inclinatorie Magnetical Needle, *in fome of the moft eminent Places of the World*, *in* 1676.

		d.	m.	
Japan,	Latitude	038	00	North.
	Longitude	143	20	Eaſt.
	Inclination	063	53	North.
Bantam,	Latitude	006	15	South.
	Longitude	120	50	Eaſt.
	Inclination	022	53	South.
Malacca,	Latitude	001	41	North.
	Longitude	110	50	Eaſt.
	Inclination	005	42	South.
The North end of Sumatra,	Latitude	005	28	North.
	Longitude	111	15	Eaſt.
	Inclination	001	44	North.
The River of Bengale,	Latitude	022	09	North.
	Longitude	116	09	Eaſt.
	Inclination	031	09	North.

H   *Cape*

		d.	m.	
Cape Canoim,	Latitude	07	50	North.
	Longitude	92	15	East.
	Inclination	11	23	North.
Suratt,	Latitude	21	00	North.
	Longitude	94	12	East.
	Inclination	33	43	North.
The South end of *St.* Law-rence,	Latitude	25	37	South.
	Longitude	55	30	East.
	Inclination	39	01	South.
The Cape of Good Hope,	Latitude	35	30	South.
	Longitude	27	30	East.
	Inclination	47	38	South.
St. Elena,	Latitude	16	03	South.
	Longitude	04	44	East.
	Inclination	15	29	South.
St. Elena Nov.	Latitude	16	03	South.
	Longitude	14	24	East.
	Inclination	16	23	South.

Sampson's

		d.	m.	
Sampfon's River,	Latitude	04	22	North.
	Longitude	30	28	Eaft.
	Inclination	22	09	North.
Old Calibar,	Latitude	04	50	North.
	Longitude	19	51	Eaft.
	Inclination	23	09	North.
New Calibar,	Latitude	04	40	North.
	Longitude	18	12	Eaft.
	Inclination	23	06	North.
River of Gambo,	Latitude	12	47	North.
	Longitude	07	41	Weft.
	Inclination	37	54	North.
Cape de Verd,	Latitude	14	25	North.
	Longitude	12	21	Weft.
	Inclination	58	28	North.
Tangier,	Latitude	35	36	North.
	Longitude	03	35	Weft.
	Inclination	62	39	North.

H 2 *Gibralter,*

		d.	m.	
Gibralter,	Latitude	36	40	North.
	Longitude	03	18	Weſt.
	Inclination	63	29	North.
Malago ,	Latitude	36	45	North.
	Longitude	02	17	Weſt.
	Inclination	63	33	North.
Alegant ,	Latitude	38	20	North.
	Longitude	01	50	Eaſt.
	Inclination	65	10	North.
Leagorn.,	Latitude	43	28	North.
	Longitude	12	39	Eaſt.
	Inclination	68	01	North.
Galipolie ,	Latitude	40	08	North.
	Longitude	21	40	Eaſt.
	Inclination	65	03	North.
Rome ,	Latitude	41	50	North.
	Longitude	15	45	Eaſt.
	Inclination	66	43	North.

Naples ,

		d.	m.	
Naples ,	Latitude	41	08	North.
	Longitude	17	27	Eaſt.
	Inclination	66	05	North.
Venice ,	Latitude	45	37	North.
	Longitude	17	21	Eaſt.
	Inclination	69	17	North.
Conſtantinople ,	Latitude	40	56	North.
	Longitude	35	09	Eaſt.
	Inclination	64	35	North.
Alexandria ,	Latitude	30	40	North.
	Longitude	36	04	Eaſt.
	Inclination	55	39	North.
Tunis ,	Latitude	36	30	North.
	Longitude	03	54	Eaſt.
	Inclination	63	05	North.
Argier ,	Latitude	36	40	North.
	Longitude	05	30	
	Inclination	63	14	North.

Middle

		d.	m.	
Middle of Cyprus,	Latitude	34	18	North.
	Longitude	37	45	
	Inclination	58	54	North.
Middle of Candia,	Latitude	35	08	North.
	Longitude	28	32	East.
	Inclination	60	29	North.
Middle of Corsica,	Latitude	42	05	North.
	Longitude	11	43	East.
	Inclination	67	08	North.
Middle of Scisilia,	Latitude	37	42	North.
	Longitude	16	45	East.
	Inclination	63	26	North.
Maiyork,	Latitude	39	38	North.
	Longitude	05	48	East.
	Inclination	65	32	North.
Cales,	Latitude	36	22	North.
	Longitude	04	00	West.
	Inclination	63	16	North.

Lisbon,

		d.	m.	
Lisbon,	Latitude	39	08	North.
	Longitude	06	30	Weſt.
	Inclination	65	28	North.
Cape Finiſter,	Latitude	43	10	North.
	Longitude	08	19	Weſt.
	Inclination	69	07	North.
Burdeaux,	Latitude	45	10	North.
	Longitude	00	20	Eaſt.
	Inclination	69	26	North.
Rochell,	Latitude	46	17	North.
	Longitude	00	30	Weſt.
	Inclination	70	27	North.
Nants,	Latitude	47	41	North.
	Longitude	01	09	Weſt.
	Inclination	71	27	North.
Jarzey,	Latitude	49	30	North.
	Longitude	02	00	Weſt.
	Inclination	72	34	North.

Garnzey,

		d.	m.	
Garnzey,	Latitude	49	43	North.
	Longitude	02	35	West.
	Inclination	72	41	North.
Callice,	Latitude	51	13	North.
	Longitude	01	52	East.
	Inclination	73	34	
Antwerp,	Latitude	51	37	North.
	Longitude	04	37	East.
	Inclination	73	48	North.
Amsterdam,	Latitude	52	40	North.
	Longitude	04	37	East.
	Inclination	74	22	North.
Hamborough,	Latitude	54	04	North.
	Longitude	08	02	East.
	Inclination	75	05	North.
Copenhagen,	Latitude	56	17	North.
	Longitude	09	54	East.
	Inclination	76	18	North.

Elfenore,

		d.	m.	
Elfenore,	Latitude	56	40	North.
	Longitude	09	57	Eaſt.
	Inclination	76	33	North.
Gotland,	Latitude	58	20	North.
	Longitude	15	58	Eaſt.
	Inclination	77	14	North.
Cape Blanco, in New-found Land,	Latitude	51	32	North.
	Longitude	51	00	Weſt.
	Inclination	72	24	North.
Trinity Bay,	Latitude	55	54	North.
	Longitude	54	28	Weſt.
	Inclination	70	32	North.

In the Sound.

		d.	m.	
Shorham,	Latitude	58	58	North.
	Longitude	21	06	Eaſt.
	Inclination	77	48	
Stockholm,	Latitude	58	49	North.
	Longitude	14	42	Eaſt.
	Inclination	77	42	North.

I   *Scarlet*

		d.	m.	
Scarlet Island ,	Latitude	56	40	North.
	Longitude	10	38	East.
	Inclination	76	31	North.
Long Sound ,	Latitude	58	07	North.
	Longitude	07	30	East.
	Inclination	77	28	North.
Naze of Nor-way ,	Latitude	58	00	North.
	Longitude	05	00	East.
	Inclination	77	29	North.
Cats Neß ,	Latitude	61	54	North.
	Longitude	02	42	East.
	Inclination	79	43	North.
North Cape of Finmark ,	Latitude	71	22	North.
	Longitude	16	42	East.
	Inclination	84	09	North.
Archangel ,	Latitude	63	22	North.
	Longitude	21	22	East.
	Inclination	79	27	North.

Cape

		d.	m.	
Cape Blanco, in New-found Land,	Latitude	37	32	North.
	Longitude	39	36	West.
	Inclination	72	24	North.
Trinity Bay,	Latitude	48	55	North.
	Longitude	54	28	West.
	Inclination	70	32	North.
Cape Razo,	Latitude	46	28	North.
	Longitude	51	54	West.
	Inclination	69	05	North.
Cape Cod, in New England,	Latitude	42	20	North.
	Longitude	66	56	West.
	Inclination	64	44	North.
Boston,	Latitude	43	38	North.
	Longitude	70	00	West.
	Inclination	64	57	North.
New Plymouth,	Latitude	42	08	North.
	Longitude	68	01	West.
	Inclination	64	32	North.

Cape

		d.	m.	
Cape Charles, in Virginia ,	Latitude	37	39	North.
	Longitude	70	00	Weſt.
	Inclination	60	00	North.
Trinity Harbor,	Latitude	36	00	North.
	Longitude	68	30	Weſt.
	Inclination	59	26	North.
Bermudas ,	Latitude	23	20	North.
	Longitude	54	36	Weſt.
	Inclination	57	41	North.
New Iſland of Providence ,	Latitude	25	25	North.
	Longitude	70	00	Weſt.
	Inclination	48	39	North.
Hiſpaniola ,	Latitude	18	50	North.
	Longitude	70	22	Weſt.
	Inclination	40	23	North.
Cuba ,	Latitude	22	00	North.
	Longitude	81	20	Weſt.
	Inclination	42	37	North.

Barbados ,

		d.	m.	
Barbados,	Latitude	13	10	North.
	Longitude	58	24	Weſt.
	Inclination	34	21	North.
Jamaica ,	Latitude	18	15	North.
	Longitude	78	21	Weſt.
	Inclination	38	04	North.
Suranam ,	Latitude	05	55	North.
	Longitude	55	16	Weſt.
	Inclination	23	01	North.

In Ireland.

		d.	m.	
Dublin ,	Latitude	53	32	North.
	Longitude	07	20	Weſt.
	Inclination	75	08	North.
Wexford ,	Latitude	52	33	North.
	Longitude	07	08	Weſt.
	Inclination	74	31	North.
Waterford ,	Latitude	52	30	North.
	Longitude	07	48	Weſt.
	Inclination	74	30	North.

Cork ,

		d.	m.	
Cork ,	Latitude	51	01	North.
	Longitude	08	20	West.
	Inclination	73	32	North.
Kings Sail ,	Latitude	51	52	North.
	Longitude	08	32	West.
	Inclination	74	07	North.
Old Head of Kings Sail ,	Latitude	51	40	North.
	Longitude	08	38	West.
	Inclination	74	00	North.
The Blaskes ,	Latitude	52	15	North.
	Longitude	11	35	West.
	Inclination	74	22	North.
Lymbrick,	Latitude	53	04	North.
	Longitude	10	15	West.
	Inclination	74	51	North.
Galloway,	Latitude	53	40	North.
	Longitude	10	40	West.
	Inclination	75	13	North.

In

In Scotland.

		d.	m.	
	Latitude	56	03	North.
Leeth ,	Longitude	03	15	West.
	Inclination	76	33	North.

	Latitude	57	42	North.
Aberdeen ,	Longitude	02	55	West.
	Inclination	77	18	North.

	Latitude	58	50	North.
Isles of Orkney ,	Longitude	03	22	West.
	Inclination	77	35	North.

In England.

	Latitude	55	49	North.
Barwick ,	Longitude	02	45	West.
	Inclination	76	24	North.

	Latitude	53	37	North.
Westchester ,	Longitude	04	20	West.
	Inclination	75	09	North.

New

		d.	m.	
Newcastle,	Latitude	54	58	North.
	Longitude	02	10	Weft.
	Inclination	75	53	North.
Glocefter,	Latitude	52	03	North.
	Longitude	02	45	Weft.
	Inclination	74	15	North.
Briftol,	Latitude	51	32	North.
	Longitude	02	50	Weft.
	Inclination	73	51	North.
The Lands end,	Latitude	50	20	North.
	Longitude	05	58	Weft.
	Inclination	73	10	North.
The Lizard,	Latitude	50	10	North.
	Longitude	05	24	Weft.
	Inclination	73	02	North.
Plymouth,	Latitude	50	36	North.
	Longitude	04	33	Weft.
	Inclination	73	17	North.

<div align="right">*Portfmouth,*</div>

		d.	m.	
Portsmouth,	{ Latitude	51	08	North.
	{ Longitude	01	00	West.
	{ Inclination	72	52	North.
Dover,	{ Latitude	51	25	North.
	{ Longitude	01	00	East.
	{ Inclination	73	41	North.
London,	{ Latitude	51	32	North.
	{ Longitude	00	00	
	{ Inclination	73	47	North.

Whereas we ought to give all Praise and Glory to Almighty God for his infinite wisdom and mercy in these latter days of the World, to make known the Motion of the Magnetick Sphere *round about the Earth, and its admirable use; yet there are some that snarle against it, but let such have a care how they snarle against the Almighty* Jehovah.

F I N I S.

K

ADVERTISEMENT.

THe fifty two Counties of *England* and *Wales* Geographally deſcribed in a Pack of Cards: Whereunto is added, the length, breadth, and Circuit of each County, the Latitude, Scituation, and Diſtance from *London*, of the principal Cities, Towns, and Rivers, with other Remarks as plain and ready for the playing all our *Engliſh* Games, as any of the common Cards.

There is alſo a New Mapp of the World, of one large Sheet, with the North Polar draught, and the South Polar draught. A New Mapp of *England, Scotland,* and *Ireland,* in ſeven large Sheets, with all the Roads, never the like done before. A Mapp of *England* in one large Imperial Sheet of Paper, and a New Mapp of *London* and the Suburbs, in an Imperial Sheet of Paper, *Germany* and *Poland*

Poland exactly done.   There any Gentleman may be Accommodated with all sorts of Mapps, small and ~~long~~, Coloured or Unco- *Large* loured, by *Robert Greene*, at the *Rose* and *Crown* in *Budge-Row*.

F I N I S.